



FRIDAY MARCH 12, 1880.

Contributions.

The Union Electric Signal System.

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The system of signals which is the subject of this article possesses certain new features not embraced by any other known system, and it is thus especially interesting for study,

quently a derangement of the battery, or the breaking of a rail on the track, will immediately cause the signal to indicate danger.

This feature, which is peculiar to this system, is the result, first, of the use of rails as conductors of the electric current which controls the signal (consequently dispensing with track instruments); second, by the use of an electric circuit to hold the signal in the normal or safety position, or, in other words, by operating the signal on the principle of a constant circuit.

Should it be desired to have another—distant—signal (represented in the right of fig. 1) move simultaneously with that which stands at the entrance to the section, the electro-magnet of the distant signal (the mechanism of both these signals is exactly the same) is placed in a new electric circuit which flows through a line wire between the two signal-posts, and returns through the rail, as shown by darts.*

Another manner of joining two insulated rails is by using a wooden splice instead of an iron fish-plate. A cross-section of a wooden joint, which is a modification of that known as the "Sandwich joint," is shown in fig. 4. Other combinations can be made to accomplish the same purpose.

A question may be asked here, as to whether the meteorological changes in the atmosphere would not influence the electric current flowing through the rails, so as to disturb its action. To this can be answered that practical experience has so far demonstrated the perfect reliability of such a conductor, and, indeed, the great sectional surface of a rail presents so little resistance to the flow of electricity, that the latter will not be likely to seek another channel; or, to explain this differently, the electric current which is conducted through the rails, can be made so weak—and yet sufficient for our purpose—that neither the ballast nor the cross-ties in wet weather, nor water or ice on the track, would be suffi-

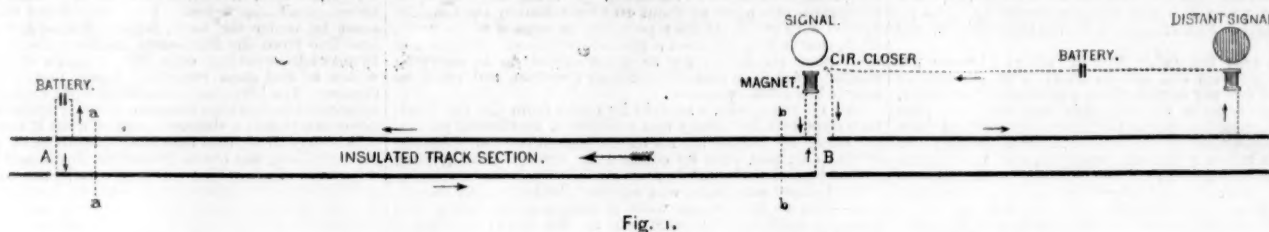


Fig. 1.

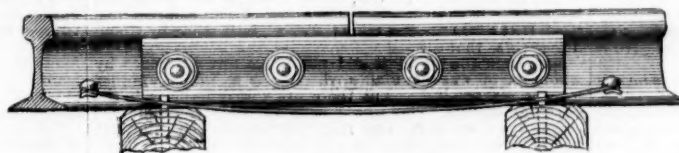


Fig. 2.

not only to specialists, but also to the whole profession of railroad engineers.

The fundamental principles upon which it is based are not new; but their application embraces new inventions which are absolutely necessary to produce good practical results.

Mr. Oscar Gassett, of Boston, is its principal inventor, he having, after several years of experiments (performed on the Fitchburg Railroad, the managers of which have extended to him all facilities), succeeded in developing it into the most perfect of automatic systems.

FUNDAMENTAL PRINCIPLES.

The Union automatic electric signal system is operated on the principle of the closed or constant electric circuit, in which the rails of the railroad track are used as conductors of the electric circuit. This is accomplished in a manner shown in fig. 1, in which A B represents an insulated section of a railroad track. At one end of this section is placed a battery (shown on the left side of fig. 1), one pole of which is connected by wire (represented by dotted lines), with the rails of one side of the track, while the other pole of the battery is connected by wire with the rails of the other side. At the other end of this section is placed a signal, which, it will suffice to say now, is moved by a power, which is controlled by an electro-magnet (shown in the engraving). The arrangement is such, that when the electro-magnet is excited, it causes the signal to take the safety position, and, when the electro-magnet is demagnetized, it causes the signal to indicate danger.

The bobbins of this electro-magnet are connected with the rails at the end of the track section, as shown by dotted lines. The electric circuit is thus completed, and it flows from the battery through the rails of one side of the track, thence through the electro-magnet of the signal, thence through the rails of the other side of the track back to the battery.

If nothing is placed on this track section, the electric current excites the magnet, and the signal is then at safety, which is its normal position. Should a bar of iron, b b, fig. 1, be laid across the track at the entrance B to the section A B, the electric current, instead of running through the electro-magnet of the signal, will take the shortest route, that is, it will pass through the bar b b; and the electro-magnet of the signal will thus be cut off from the battery, and, being demagnetized, will permit the signal to move into the danger position. A pair of car or engine wheels with the connecting axle acts exactly like the iron bar. Should now a bar of iron, a a, or a pair of mounted wheels be placed at the other end, A, of the section, exactly the same thing occurs, that is, the current of electricity, instead of flowing from the battery along one rail to the magnet and back again through the other rail, will pass directly across from a to a without affecting the magnet, and the signal will then move to danger.

Therefore, if a train enters on a signal section from either end, and runs over it, as long as it remains on that section—whether standing or moving—the signal will show danger.

This is an important feature in connection with automatic signals, for should a train enter on a section from the opposite end from that which it generally does, when running in the normal direction—which is always the same for each line of a double-track road—the signal should indicate this by turning to danger.

It will be at once noticed that this feature makes this system applicable to a single as well as to a double-track railroad; and that, should a car, or even only a pair of mounted wheels, break loose from the train and remain on the section, the signal will keep its danger position.

It will be further noticed that as any break in the electric current would cause the signal to move to danger, conse-

A circuit-breaker is placed in this wire, in connection with the mechanism of the first, or home signal, being so arranged that it is independent of the movement of the signal itself. How this is accomplished will be shown by an illustration hereafter. As soon as the electro-magnet of the home signal is demagnetized, the electric circuit which holds

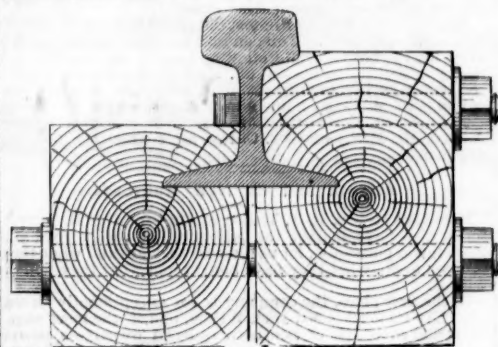


Fig. 3.

the distant signal in the safety position becomes broken, and consequently both signals move to danger. In the same manner any number of signals can be moved simultaneously.

It remains to explain the manner in which the rails of a track can be used safely as conductors of electricity, and a

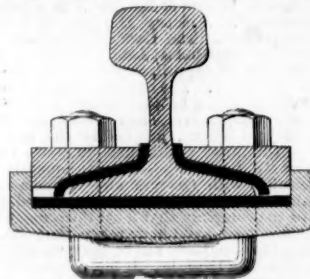


Fig. 4.

section of a track can be insulated without breaking the continuity of the track.

Trials conducted by different persons and at various times have demonstrated that the rails of a railroad track, with all the joint-plates tightly screwed, will, with certainty, conduct electricity; but as joints or splices which will not get loose are rare, and the rust or dust by getting into the joints will insulate two connected rails, it was found necessary, in order to insure a positive action, to connect the ends of each two contiguous rails with a wire, by riveting it to the flanges of the rails, as shown in fig. 2. The wire is solidly jointed with the rivets by soldering.

The insulation of a track section is accomplished by means of vulcanized fibre. The Fisher & Norris joint has been used for that purpose, and the arrangement is shown in cross-section in fig. 3. Plates of vulcanized fibre about 1/4 in. thick are placed between the foot of the rail and the chair, and between the fish-plates and the rail, as shown in black in the engraving. Also a piece of the same material, and of the shape of the rail section, is placed between the ends of the connecting-rails, to prevent an electric joint being made by the creeping or expansion of the rails.

* This electric current could be made to return through the ground, but as in such case it would require more battery, the rail is preferred.

ciently good conductors to give it a passage when a very much better conductor—the rail—is in its way.

In the application of this system the sections are made from a mile to a mile and a half long, and one cell of a "gravity" battery is sufficient to act on the signal; but the sections may be made much longer.

(TO BE CONTINUED.)

The English Mogul.

TO THE EDITOR OF THE RAILROAD GAZETTE:

In closing your review of the English Mogul engine, illustrated and described in your last issue, you allude generally to features of its construction "which will strike any American," but to which you have not room to refer specifically. The engine, as a whole, seems to be the closest approximation to American practice that has yet been produced in England, and its constructor has, in many particulars, thrown off the trammels of conservatism and prejudice, and followed to advantage the design of the Baltimore & Ohio Railroad Company Mogul passenger engine "600," which was exhibited at the Centennial, and is described in the Gazette of Nov. 17, 1876.

The departure from the time-honored English custom of locating the steam-chests under the smoke-box, with the valve as far as possible from the cylinders, and as inaccessible as circumstances would permit, must have involved considerable moral courage on the part of the designer; but it is just possible that to necessity (clothed in the guise of the truck equalizing-beam) are to be credited the outside steam-chests and the corresponding short steam passages. The ancient traditions have again been violated, although not too rudely, in the adoption of a primitive form of bed-plate, termed by Engineering "a heavy box casting which braces the cylinders and frames together." As no transverse section of the engine is given, the connection of the smoke-box, cylinders, and frame cannot be clearly understood, but in any event an improvement in this direction is manifest.

In the judgment of the writer, our present practice of forming a cylinder and half-saddle in one piece, bracing the frames and cylinders together by the connection of two such castings, and connecting the resultant saddle or bed-plate to a cylindrical smoke-box, is, in all respects, one of the most important and valuable characteristic features of American locomotive engineering. The English mogul's "heavy box casting" (designed to perform the duty of the Mason bed-plate of 1856), is not mentioned in your review of the engine, and the imperfection of such a cylinder fastening, as compared with the standard American centre-divided saddle, will doubtless strike many of your other readers, as it has myself, as being the most objectionable feature in the engine under consideration. J. S. B.

PHILADELPHIA, March 6, 1880.

February Meeting of the Car-Builders' Association.

The February meeting was held at the rooms in Liberty street, New York, on the evening of the 19th, but we have not been able to find room for a report of the proceedings earlier. The meeting was called to order by the President, Mr. Leander Garey, who announced the subject for discussion to be the "Heating, Ventilating and Lighting of Cars," and called Mr. Gouge to give his views in relation thereto.

Mr. GOUGE said any person could get air into a room and get it out again, but it was very difficult to handle air in large quantities. A railway car has the smallest cubical space of any apartment in which people congregate. It is less proportionately, to the number of persons, than that of an ordinary closed carriage. His rule, which is supported by other authorities, is, that a man should have at least 10 cubic feet air per minute. He ventilates from 3 1/2 to 4, so that it is absolutely unfit to breathe but if 10 cubic feet are supplied there can be no

question about its purity. If a room holds 50 persons, the problem is to get 500 cubic feet of air into it, and in winter warm it, and then take that quantity out without producing disagreeable draughts. It is much more difficult to accomplish this in a railroad car than in any other apartment, because the space is so small. Part of the time the car is moving and part of the time standing still, which increases the difficulty, and it is hard to scoop in just the right quantity and heat it at the same time. This is about the whole sum and substance of the problem.

Mr. CREAMER said how any human being could get 10 cubic feet of air through his lungs in a minute he could not understand. A man ordinarily will breathe from 7 to 9 times per minute, and there was not a man in the room who could take in more than a gallon of air. A man could not consume more than one cubic foot per minute, but the quantity of air required to maintain a perfect system of ventilation in any room would be about two cubic feet per minute for each person. His plan for introducing and exhausting the air was to receive it into the frieze of the car, sucking it in by exhaustion and making the ventilation independent of the heating. If you take the air in on the top of the car, there would be times when it would change so suddenly as to be disagreeable, and at times the gas from the locomotive would enter.

Mr. GOUGE said ten cubic feet of air per person per minute in school-rooms did not do away with perceptible odor. With 22 feet per minute there was scarcely any odor. Some authorities want to give 30 cubic feet, and one plan proposed at Washington, it was said, would give 60. It was generally supposed that the carbonic acid settled on the floor, but he had a record of a thousand analyses, and in no single instance had he ever found that the carbonic acid gas was more upon the floor. It was 100 per cent. more at the ceiling than at the floor. The carbonic gas was not nearly so injurious as the organic matter which is thrown off from the lungs and which we smell on entering a room.

Mr. GAREY said the ventilation of freight cars used for transporting perishable freight had, of late, engaged considerable attention, and he would like Mr. Wicks to give a little of his experience.

Mr. WICKS said the ventilation of freight cars was an entirely different matter from that of ventilating passenger cars. In the latter case it was necessary to introduce pure air constantly to supply oxygen, but in refrigerator cars we find that the air is not changed essentially from its original condition, but it is made impure in a different way. Take, for instance, a car which carries beef, and that is about as severe a test as a refrigerator car can be put to. As soon as the beef is slaughtered decomposition commences. For a time it merely has the effect of changing somewhat the character of the beef. It does not injure it. It makes it more mature and better fit for the table. But, as that goes on, it really injures the quality of the flesh. Now, so far as he could find out by careful study of the subject, and by observation, the gases which arise from the beef are such as are soluble in water, and he found that moisture had very great effect in generating those gases. If you get rid of the moisture you get rid also of the gases, and your air then is in its original condition. He had made many careful experiments, and had observed large rooms where a great deal of animal matter has been held, and had seen the effect. In Boston, last year, a man fitted up all the floors of a store house as a refrigerator, and he used a process which has been employed frequently for making ice. He used ammonia, and had a system of pipes in the shape of a large wheel, which revolved slowly with the motion of the engine. The air came in contact with the pipes and the moisture was frozen on the surface of the pipes. By a system of brushes, the moisture was swept off, and the air as it went back was sweet. When the speaker was there, four or five car-loads of beef which was spoiled arrived from Chicago, and the owner of it put it into these rooms so as to arrest decomposition, and thus try and get something for his beef. Two or three barrels of snow were collected by the pipes, and the odor of it was exceedingly offensive, but the decomposition of the beef was arrested by being in there, and the owner got something for his beef, which was not expected by him. That shows that the moisture holds the gases which arise from decomposed matter. The idea which he had always had in regard to refrigerator cars was that you should take advantage of the purifying quality which ice possesses, and use it as far as you can. In building an ordinary refrigerator room you can make a very good one if you have about 25 per cent. of the space devoted to ice. Then you get up a current of air, and as the warmer air passes along the ice, the moisture is condensed there and the room remains sweet. Now when you come to a refrigerator car, you cannot devote as much space to the ice. You can take only about one tenth of the space, and you do not have enough ice to create a current of air which will affect the whole car. One tenth of the space for ice is not sufficient. Generally part of the ice is put in one end of the car and part in the other, and the idea which he had always had about it was that it is desirable to have an artificial current of air which will continually keep moving through the car, and in that way different impurities are gathered there and will be carried off as the air passes over the ice, because when the air gets into the coldest place the moisture that is in it condenses. There are a great many ways of building refrigerator cars. There are some that have the ice bunked up, and present a cold surface. That accomplishes the work thoroughly and well, so long as you can arrest the moisture and keep it on the cold surface, and prevent it from escaping again into the air. But the ice and salt must be continually renewed to produce that effect. But the simplest way is to have the ice exposed, and to take advantage of its purifying effect, because as the ice melts, it always presents a fresh, clean surface to the air as it comes in contact with it, and it will be found that the drip-water will taste of whatever impurity is in it.

Professor TRENT said he had not had a very large amount of experience in this matter, but, in regard to ventilating cars, especially refrigerator cars, he thought the simplest way was to take into consideration the fact that moisture is the first element of decay and to act upon that. If you take fruit, the first product of fermentation is moisture. Fermentation produces heat; heat and fermentation decay. Now the easiest and the best method to get rid of that is to introduce the driest air you can get and the purest. But there is no necessity for a large amount of machinery to ventilate a car, for this reason, that if you have a closed space and you force air in it at one part, if there is an opening it must go out. If you make a bell or trumpet-mouth on top of a car, you will take in a large quantity of air when the motion of the car is forward. If that is brought down into the car it can be conducted all through it, no matter whether there is one crate of fruit in it or five hundred. If the fruit is too closely packed, by introducing small pipes at the tops of the crates the pressure of the air which enters through the trumpet, is sufficient to drive a current of air through every crate in the car, and out at the bottom. In order to get clean air, you must have a vessel containing clean water. You require very little ice. The fruit should be kept as near the temperature of the air as is possible, but it should be

kept dry. If you have moisture, you will have fermentation; but if the air is dry, the fruit will remain sound.

At Charleston they put in fruit—strawberries especially—in splendid condition. When they arrive in New York they are found to be in a mass. People say it is the shaking of the cars. Fermentation has taken place, and to prove it you will find that all the berries in the centre of the crate will be good. If you take meat, and put it into a dry room at a moderate temperature, you can keep it a very long time simply by keeping a current of dry air passing over it. If you have it too cold, the temperature of the meat will be lowered so much that it will begin to decay of itself. By passing the air simply in a vessel of water, you first of all get rid of the dust and dirt that is carried in from the top of the car. Then, by carrying the pipe to the surface of the water, the pressure of the air on the water will cause the dust to go into it and settle at the bottom. He thought the same thing could be done with a passenger car. If that plan were adopted, he was certain that where they got one crate of perishable freight into the market to-day they should get fifty.

Mr. WICKS said that for a perfect refrigerator car for summer, outside air must be excluded. To bring air from 80 to 85 degrees into a car at about 40 would destroy the ice. He agreed with the gentleman perfectly in regard to carrying fruit, that it does not need a low temperature. You do not need there the use of ice so much as you do in carrying meats. That is an entirely different question, and must be handled in a different way.

Mr. QUACKENBOS, who said he came from the far West, then explained his theory and practice of ventilating passenger cars. He admits the air at the bottom instead of the top of the car; and thus he claimed he succeeded in getting "what he called absolutely pure air." (2)

Mr. GAREY said there was another subject to be considered—how to light a car without danger of explosion, and giving a light neither too strong nor too weak; whether it should be by gas or by oils, or by some of the other late methods. It was apparent that many of our railroad men think that a 300 fire-test oil is the same, be it made by whom it may; was that so?

Mr. MILSPAUGH said it did not make any difference by whom the oil was manufactured. One is as safe as another if it is 300 fire-test. But there are vast differences in the burning qualities. One would have far more illuminating power than another. One might be heavier than another, and not contain anything like the same amount of illuminating properties as the other at the same fire-test. Take, for instance, two paraffine oils that are made by different processes, one by distillation, and one by the vacuum process, and of the same fire-test. One might give a very fair light, while the other would not give a light at all. There were to-day five different manufactures in this country of 300 fire-test oils. Three are practically alike. There are two just as different from the other three as the paraffine oils. The only difference that there is in these, is in the process of manufacturing. But so far as the safety goes, one is as safe as another if it is 300 fire-test; but they are not of the same illuminating power.

Mr. WICKS said these fire-test oils could be made in two or three different ways. You can mix a lighter gravity with a very heavy, but the light oil would burn out rapidly and then you will get no light at all, whereas if you took what is really the proper quality of oil of the right fire-test, you would get a nice clear flame all the way through.

The discussion of ventilation was then continued by Mr. Adams, Mr. Kirby and Mr. Garey, after which the meeting adjourned.

Atlanta and its New Railroads.

Now that Messrs. R. T. Wilson & Co.—for it is R. T. Wilson & Co.—have bought the Macon & Brunswick road and have taken possession, let us see who they are and what they propose to do, what they have bought and what they will do with it.

In the first place, the company is an exceptionally strong one. At its head is Mr. Dick Wilson, one of the most sagacious and successful of Southern railroad owners—a power on Wall street, and an authority in railroad finance. He and his partner, Mr. McGhee, who is also interested in the purchase, own the East Tennessee & Virginia road, and the Memphis & Charleston, and part of the Selma, Rome & Dalton road. The first road is one of the chief arteries of travel and traffic running north and south through the continent, and the late appreciation of the stock of the latter from 10 and 11 cents to 50 and 60 is evidence that it is to become one of the important roads of the country.

Back of Messrs. Wilson & McGhee is a company of capitalists, including Mr. Henry Morgan, of New York, Mr. Millbanks and others. The Georgia members of the company are Messrs. Hazlehurst, Lane and two or three others. There is no lack of capital, experience, or nerve or foresight in the company. The executive head of the company, Mr. W. M. Johnson, is a brother-in-law of Mr. Wilson, a fine business man, young, active, clear-headed, and full of energy and vim. He had bought, just before the purchase of the road, two of the finest plantations in South Georgia, purchasing from Mr. Lee Jordan, and consequently had already become identified with Georgia and Georgia development. As far as all the essential points are concerned, the road is in the hands of the company that must do as much for the state as any company that could have taken the road.

As to what this company has bought, we say in beginning that it has bought a bargain. It has secured, to begin with, for \$1,125,000 nearly 200 miles of road fairly equipped and in good condition. This property paid in one year, under the state's management, \$164,000 a year in clear profits, and can be made to do better at once. Competent judges say that it may be relied on, without further connection, to make \$160,000 a year, which is over 12 per cent. on the investment.

But the road can be extended to Atlanta for another million dollars; so that for \$2,500,000, in round figures, the company can have three hundred miles of road built and equipped at less than \$9,000 a mile, an unprecedented investment. The property will be worth double the money the day it is completed, and would float \$4,000,000 in bonds at par.

The resources of the country through which the road now passes have never been properly appreciated. There is no section of Georgia that promises more in development than the great pine barrens. It is the best of country for sheep-husbandry and cattle raising, combining every important advantage of climate, range, etc. There is nothing in which Texas has the advantage over this region for sheep, as it has the disadvantage of remoteness for market, the prevalence of wild animals and thieves, and the terrible north wind-storms. There are many interesting and intelligent experiments being made in sheep husbandry in south Georgia now, and the wonderful success being achieved must result in a very general introduction of flocks. An official comparison, made from gathered statistics by the Commissioner of Agriculture, shows that a dozen farmers taken at random in the Georgia pine barrens had made more money on the capital invested than the average farmers of Pennsylvania. Detailed returns from more than a hundred farmers demonstrated that the average profit on sheep husbandry in south Georgia was 42 per cent. on capital invested. The growth

of the turpentine business is something wonderful, and annually large turpentine firms are attracted to this new and rich field from the worn-out North Carolina barrens. The yield of turpentine and resin is increasing every year, and is already a very heavy and profitable freight. The lumber resources of this region are practically exhausted, and the lumber taken out from this section is said to be equal to the best.

Besides these things, the climate of the Brunswick region is rapidly making it a favorite resort for consumptives or persons troubled with pulmonary complaints. The test has been made by invalids of Aiken and the Carolina plateaus, and of Florida in all its sections, and the preference is universally given to the pine regions. The balsam air of the pines is especially healing to the lungs, and the dry atmosphere has a soothing effect, where the damp saline breezes of Florida irritate the lungs, or the bleaker Carolina airs nip them too sharply. A very handsome hotel has been built at Eastman, in Dodge County, which is filled during the winter with guests, and others are contemplated all along the line of the road.

It is, though, in its through business that this line will become most important. Once completed to Atlanta, as it must be under the lease, Messrs. Wilson & Co. will have a fine line from the Mississippi at Memphis to the ocean at Brunswick—working over the Western & Atlantic road, which is and must remain a cheap highway open to all comers. The business of the Mississippi Valley is just in its infancy—the carrying business of the produce of the West to the ocean is now a shadowy hint of what it will be.

It is easy to see that enormous quantities of grain, heretofore glutting the trunk lines at St. Louis, and the increased quantities of grain that will be grown in the future, will be floated down the Mississippi in barges, seeking eastern outlets at important points along the river, and sailing vessels for Europe at New Orleans. Jay Gould has already organized a company with \$1,000,000 paid in, for the building of barges for this purpose. The proper effort will stop vast quantities of this grain at Memphis, and bring it to Brunswick, where it can get immediate ocean shipment, and avoid the long Gulf voyage it would have to undertake from New Orleans. Indeed, we learn that Messrs. Wilson & McGhee will erect two large steam wheat elevators at Memphis at once, and engage in this trade heavily.

This line of thought brings us once more to a consideration of the Georgia Western. There can be no sort of doubt that this road is a necessity to Messrs. Wilson & Co. With it as an air-line, connecting the Memphis & Charleston at Decatur to the Macon & Brunswick system at Atlanta, they would have the shortest and best line from the Mississippi to the Atlantic, every foot of which would be over their own track. These gentlemen, it is now well known, were quietly but eagerly negotiating for the purchase of the Georgia Western road-bed and franchise when the Louisville & Nashville bought it. This was before they had secured the Macon & Brunswick road. With that line in possession their interest in the Georgia Western is immensely increased. If they had secured the road-bed—and one of their leading officers has said that they "were only three days too late"—they would commence its building in less than a month. Further, we will bet a dollar to a snow-bird that unless the Louisville & Nashville people have commenced that road by the time the next legislature meets, Messrs. Wilson & Co. will go before that body and apply for an independent charter, and build the Georgia Western anyhow. It is not only a road that is essential to the efficiency of the system they must have determined on making efficient when they bought the Macon & Brunswick, but it is a road that will pay a handsome dividend on the cost of construction with its local business. It is a rich chance for whoever will undertake it. Whenever it is built—no matter who builds it—it will develop Brunswick nightly, and build up the Macon & Brunswick business.

It must be remembered, too, that Messrs. Wilson & McGhee already own the line from Bristol, Tenn., to Prior's station below Rome. By building a short track of about 70 miles from that point to Atlanta, they would have a line from Bristol to Brunswick under their own control and ownership. And by building a short line from Varnell's station on the East Tennessee, Virginia & Georgia Railroad of only nine miles to the Cleveland Branch from Chattanooga they would have a long line from Brunswick to Memphis, besides having a direct connection with the Cincinnati Southern at Boyce's station.

It will be seen, therefore, that the property is a handsome one, carrying heavy profit in its original purchase; it promises much more in its outcome. That it will be liberally administered and extended as provided by law, no one who knows the high character of the persons interested can doubt. It will take time to select the route of extension, determine upon the policy of the road, bring the track and equipments up to first-class condition. While doing these things, which will redound no less to their own profit than to the glory of Georgia, Messrs. Wilson & McGhee are entitled to the sympathy and support of the people of our state, and especially of those living in the section interested.—*Atlanta Constitution*, March 9.

Transportation in Congress.

In the Senate on the 9th:

Mr. Bailey, of Tennessee, submitted the following resolution:

"Whereas, It has been announced in the public press, and there is reason to believe that a contract has been entered into by and between the Central Pacific Railroad Company and the Union Pacific Railroad Company on the one part, and the Pacific Mail Steamship Company on the other part, by the terms of which contract the Pacific Mail Steamship Company, in consideration of receiving the sum of \$110,000 per month from the railway companies, binds itself to charge such rates for freight and passengers as may be fixed by the railroad companies, and to collect the same from the commercial public; and,

"Whereas, The effect of such a contract is directly prejudicial to the public interest and contrary to the public policy that controlled Congress in chartering the Union Pacific Railroad Company and in granting to both railway companies large subsidies in money and lands; therefore,

Resolved, That the Committee on the Judiciary be instructed to investigate and report whether such a contract has been made, and what legislation is necessary to prevent the execution of the same and protect the public interest, and such committee may report a bill to carry its recommendation into effect."

The words "and there is reason to believe" were stricken out on motion of Mr. Edmunds, and the resolution as amended was agreed to.

Before the House Committee on Inter-oceanic Canals on the 9th:

M. de Lesseps appeared and made an address on his plan for the Panama Canal, setting forth the advantages of the route chosen by him. He also answered some questions as to the nature of the approaches for sailing vessels to the harbors at either end of the canal.

He was followed by Capt. James B. Eads, who read a paper on his proposed ship railroad across the Isthmus of

Penama, repeating substantially what we have heretofore published.

M. de Lesseps acknowledged Capt. Eads' ability as an engineer, but professed himself unable to judge of the merits of his plan, and still preferred a canal.

RAILROAD LAW.

Putting Passenger Off a Train.

In the Wabash Co. against Wright, appeal, the Indiana Supreme Court last week decided as follows:

(1.) Section 28, 1 R. S., p. 709, provides that "If any passenger shall refuse to pay his fare or toll, the conductor of the train and the servants of the corporation may put him out of the cars at any usual stopping-place." This section does not prohibit a railroad company from putting such passenger off the train at any other than a usual stopping-place, and there is no law in this state containing such a prohibition. A railroad company has a legal right to discriminate between the amounts of fare where a ticket is purchased and where the fare is paid upon the train, and to demand, exact and receive a larger fare in the latter case than the price charged for a ticket; and where a passenger does not purchase a ticket, and refuses to pay the amount of fare demanded, the conductor of the train has a right, and it is his duty as a faithful servant to put such passenger off his train at any time and at any place on the line of the road, without reference to the stations, and without actual danger to his life. When he refuses to pay his fare, such passenger becomes an intruder, a trespasser, and has only the rights of such. In such case it is his duty to acquaint himself with the rules of the company touching the fare, and if he does not do so, to pay the fare demanded and investigate the matter afterward.

In a similar appeal case—Baltimore, Pittsburgh & Chicago Co. against McDonald, the Court also decided as follows:

(1.) Under section 28, 1 R. S. p. 709, when a passenger refuses to pay the full amount of his fare, upon proper request by the conductor, such conductor has the right and it is his duty to put such passenger off the train; and it makes no difference that the conductor has previously received a part of the fare. He has the right, and it is also his duty to demand the remainder, and if the passenger refuses to pay, he may put him off the train. (2.) A passenger who gets on a train drunk and intoxicated and advises other passengers not to pay their fare, is guilty of disorderly conduct, and the conductor of the train may, under sec. 2, 1 R. S. 710, after tendering him such "proportion of the fare he has paid as the distance he then is from the place to which he has paid his fare bears to the whole distance for which he has paid his fare," remove him from the train, and, if no more force is used in effecting such removal than is necessary, the railroad company incurs no liability on account of such removal.

THE SCRAP HEAP.

Car Repairs on the Missouri, Kansas & Texas.

The Car Department of the Missouri, Kansas & Texas road makes the following statement for the year 1879:

	Passenger.	Freight.
Mileage of trains.....	\$44,040	1,536,391
Mileage of cars.....	4,109,412	26,048,278
Average number of cars per train.....	4.70	16.40
Cost of repairs per train mile.....	8.21 cts.	0.28 cts.
Cost of repairs per car mile.....	1.69 cts.	0.55 cts.
Total cost of repairs.....	\$69,290.17	\$144,476.96
Mileage of Pullman cars.....	575,422	
Cost of Pullman car repairs per mile.....	1.29 cts.	

The freight-car mileage is of loaded cars, three empty cars being rated as two loaded ones. The total cost of car repairs for the year was \$213,776.13.

Train-Wrecking as a Substitute for Divorce.

John Nevins was a fireman on the Evert & Osceola Railroad in Michigan. A log was chained to the track one night, and his locomotive was wrecked, killing him instantly. His widow sued the company for \$5,000 damages. While the suit was pending, a good-looking young fellow made her acquaintance, professed to fall in love with her, and made a marriage engagement. Having confidence in him, Mrs. Nevins told him that the log was placed on the track at her request, she desiring to get rid of her husband, while they were to have all the money that could be gained by a lawsuit. The wooer induced her to repeat the story in the hearing of concealed witnesses, and then had her arrested. He was a detective in the company's employ.

He Built Cars, but Never Rode in Them.

Henry Hartman is the name of a young man, aged about 29 years, who was born up in the vicinity of Carrolltown, and who has been employed for some time past in one of the Pennsylvania Railroad shops at Altoona. When he left home for that city to look for a job, he walked across the country, and the several visits which he has since paid to the parental roof, and also at the house of his sweetheart, were all on foot. Last week it was suggested to him by a fellow-workman that he might as well get a pass through his foreman, and ride in the cars as far as Ebensburg, as he could thus shorten the walking distance considerably, when Henry made the astounding answer that he had never taken a car-ride during the whole natural term of his existence. But he concluded the advice was good, and sought a free ticket, which was promptly furnished. To say he was tickled with his experience would be drawing it very mild. When he got back he couldn't quit talking for three days, and the greater part of as many nights, of the pleasurable emotions which he felt while riding up the mountain and around the short curves on the branch road. He even dreamed about his trip, and now asserts that every chance he gets he will take a voyage up to Ebensburg and back by train, instead of footing it across the hills to his home.—*Johnstown (Pa.) Tribune.*

Fast Time South.

A few days ago a train on the Alabama Great Southern Railroad ran from Chattanooga to Meridian, about 300 miles (295 miles), in nine hours. During the trip, 35 stoppages were made, and 20 minutes were allowed for dinner. This is said to be the fastest time ever made on the Southern railroad, and this was done over a wet and heavy track, the rain blinding the engineer a portion of the time. The Alabama Great Southern, under the efficient administration of Col. C. F. Ball, is rapidly taking position as one of the best and safest railroads in the South.—*Montgomery Advertiser.*

The Cawood Swage-Block Cases.

A dispatch from Chicago, March 5, says: "The final decree has been entered in the United States Circuit Court in the swage-block case of Samuel H. Turrell against the Illinois Central Railroad. The amount found due the complainant is \$89,177.55. A similar decree for \$131,782.47 was entered against the Michigan Southern & Northern Indiana Railroad Company in favor of the same plaintiff. These

LOCOMOTIVE RETURNS, NOVEMBER, 1879.

Master Mechanics of all American railroads are invited to send us their monthly returns for this table.

NAME OF ROAD.	Number of locomotives in service.	Number of miles operated.	MILEAGE.		MILES RUN TO		Average cost per freight car per mile, cents.	COST PER MILE IN CENTS FOR							AVERAGE COST OF	
			Total.	Average per engine.	Coal.	Oil.		Repairs.	Fuel.	Stores.	Miscellaneous.	Engines, firemen and wages.	Total.	Coal per ton.	Wood per cord.	
Allegheny Valley, River Division*.....	130	34	87,894	2,581	34.43	23.40	21.70	0.750	5.67	3.27	0.48	5.00	15.06	8	8	
Low Grade Div., Western, 1st and 2d Divs.....	120	19	37,341	1,905	28.51	30.61	20.00	0.714	5.50	3.45	0.61	5.71	18.40			
Atlantic & Great Western, 1st and 2d Divs.....	228	80	202,975	9,287	32.18	15.02	10.10		3.94	0.63	0.34	1.12	5.04	17.27	2.07	2.70
Third and Fourth Divs.....	107	49	160,902	3,284	25.00	20.06	17.81		5.32	0.76	0.31	1.01	5.02	10.49	2.2	2.70
Mahoning Div.....	88	48	134,076	2,742	34.11	24.38	20.70		2.79	0.74	0.35	0.75	5.02	14.65	1.8	2.70
Camden & Atlantic.....	67	12	31,700	1,115	42.81	15.15	14.00		3.55	0.80	0.47		17.30	3.8		
Central Pacific, Western Div.*.....	178	26	60,800	2,400	47.00	18.64			4.17	12.43	0.45	0.3	7.0	25.34	5.75	5.50
Northern & San Pablo Div.*.....	158	23	61,225	2,003	34.4	21.43			4.78	10.9	0.38	0.38	7.11	29.65	5.75	5.50
Visalia Div.*.....	157	11	24,393	2,200	51.00	20.7			5.0	11.20	0.35	0.12	6.72	34.18	5.5	5.50
Tulare Div.*.....	171	8	20,457	2,561	45.00	21.16			3.74	12.68	0.43	0.21	7.08	23.70	5.75	5.50
Los Angeles, San Diego, Yuma & Wilmington Divs.*.....	600	20	67,391	2,393	58.57	20.52			4.87	10.01	0.44	0.22	7.35	22.80	5.75	5.50
California Pacific Div.*.....	178	17	37,498	2,106	38.82	21.39			4.9	15.10	0.40	0.1	6.11	30.53	5.75	5.50
Stockton & Copperopolis.....	120	11	1,919	1,919	7.90	49	0.4		0.81	0.53	0.09	0.04	0.1	0.04		
Sacramento Div.*.....	120	41	102,277	2,495	49.00	21.34	21.01		3.57	21.71	0.4	0.39	8.50	30.36		5.50
Oregon Div.*.....	152	9	17,283	2,81	34.17	24.01			1.25	16.95	0.35	0.18	7.09	24.42		5.50
Truckee Div.*.....	205	27	8,100	2,406	31.46	21.02			3.3	10.11	0.45	0.3	7.6	31.83	5.75	5.50
Humboldt Div.*.....	49	10	61,777	2,454	31.47	21.07			7.3	14.47	0.40	0.33	7.8	24.15		5.50
Salt Lake Div.*.....	219	28	9,442	3,231	26.82	18.41			3.59	21.07	0.48	0.15	7.12	32.04	5.75	5.50
Chicago & Eastern Illinois.....	153	28	86,011	3,172	31.48	18.0			3.89	3.73	0.40		4.65	12.07		
Cin. LaFayette & Chicago.....	75	10	27,341	2,744	27.45	13.78			3.74	7.03	0.5		6.56	18.23		
Cleve., Col., Cin. & Ind.....	222	82	409,011	4,090	0	0.47			3.8	0.65	0.50		6.16	18.51	2.01	2.25
Cleveland & Pittsburgh*.....	222	82	182,284	2,222	37.92	18.00	12.86	0.712	2.8	3.14	0.43	2.60	6.21	1.21	1.15	3.00
Cleveland, Tus. Valley & Wheeling.....	113	18	41,232	2,291	31.35	17.29	35.0		2.93	2.13	0.48		5.83	12.37		
Del., Lacka. & Western, Bloomsburg Div.*.....	60	25	63,335	2,534	30.72	33.40			7.81	11.01	0.50		4.48	12.70		
Erie & Pittsburgh.....	60	20	61,431	2,222	30.71	18.22	17.10	0.800	2.3	4.35	0.48	1.54	6.23	15.2	1.01	1.61
Grand Rapids & Indiana.....	332	36	101,554	2,821	30.38	37.91	16.4		2.98	7.17	0.47	2.08	5	0.780	3.6	2.50
Green Bay & Minnesota.....	214	13	30,541	2,300	42.37	31.18	22.30		1.29	7.74	0.36	0.72	4.15	15.55	3.60	2.00
Houston & Texas Central.....	408	6	181,455	3,734	43.00	45.3	6.16		4.29	8.83	0.39	0.35	6.4	18.06	3.1	2.75
Illinois Central, Chicago Div.*.....	402	68	253,580	2,734	42.81	15.2			4.29	8.83	0.39	0.35	6.4	18.06	3.1	2.75
North Div.*.....	345	13	106,728	2,019	33.27	14.73	13.30		4.4	4.60	0.22		5.74	1.03	1.5	3.05
Springfield Div.*.....	113	12	20,3	2,192	29.00	18.17	14.4		2.6	4.50	0.21		4.8	12.01	1.2	3.15
Iowa Div.*.....	101	47	11,007	2,432	37.91	16.24	12.30		3.31	8.53	0.3		5.7	17.83	3.1	2.75
Indiana, Cin. & LaFayette.....	22	48	1,855	2,400	38.4	20.0			3.48	8.2	0.24		5.75	7.6		
Jeffersonville, Madison & Ind.*.....	226	42	1,2616	2,443	28.42	28.8	25.2	1.27	3.30	8.92	0.31	2.06	5.57	2.80	3.2	2.35
Kan. City, St. Jo. & Council Bluffs*.....	247	34	111,046	2,204	43.00	9.6	9.10		2.9	6.51	0.30		6.50	16.20	2.0	2.80
Kansas Pacific.....	94	8	24,311	2,830	24.24	11.76			4.12	12.9	0.37		6.11	25.55	3.13	2.31
Lake Erie & Mich. Sd. Buffalo Div.*.....	127	14	2,280	2,280	27.81	20.00			3.47	7.97	0.30		5.92	17.58	2.99	5.43
Erie Div.*.....	112	208	22,804	2,400	29.08	18.55			3.47	7.97	0.30		5.92	17.58	2.99	5.43
Toledo Div.*.....	88	17	17,729	2,200	23.69	19.13	2.37		4.11	11.4	0.38		6.2	21.80	2.07	4.08
Mich. Southern Div.*.....	2	7	1,007	2,178	31.70	30.20	22.82		1.42	14.14	0.3		5.9	18.02	3.1	2.75
Little Rock, Miss. & Texas.....	2	7	12,001	2,178	31.70	30.20	22.82		1.42	14.14	0.3		5.9	18.02	3.1	2.75
Louisville & Nashville, First Div.*.....	322	64	153,223	2,394	26.27	14.77	18.39	1.15	2.3	7.68	0.39	1.3	6.47	17.90	1.97	2.20
Second Div.*.....	320	33	88,250	2,081	15.70	1.8	2.75	6.10	2.4	1.59	0.12	1.59	6.12	16.09	1.75	2.80
Memphis Div.*.....	131	25	52,802	2,114	24.48	15.00	16.25	1.13	3.48	8.45	0.40	1.08	6.47	21.83	3.41	2.90
Nash. & Decatur Div.*.....	127	17	27,081	2,700	27.13	15.70	16.1	1.16	2.9	7.56	0.37	1.46	6.16	18.51	2.01	2.25
South & North Alabama.....	180	31	75,752	2,400	31.81	15.00			3.12	4.90	0.34	1.13	5.53	17.51	1.72	2.00
Evansville, Hen. & Nash. Div.*.....	135	31	64,131	2,069	30.61	19.64	12.57	1.26	2.46	4.04	0.27	1.60	5.61	14.07	1.22	1.75
Marquette, Houghton & Ontonagon.....	88	17	1,007	2,178	31.70	30.20	22.82		1.42	14.14	0.3		5.9	18.02	3.1	2.75
Missouri, Kansas & Texas.....	607	81	280,935	3,541	36.72	16.24	16.90	1.84	3.44	5.11	0.41	0.81	6.25	18.16	1.06	2.24
North Cent. Minn. & Can. Div.*.....	147	46	101,635	2,200	29.08	18.55			4.61	6.08	0.40		5.78	16.53	1.06	2.24
Pennsylvania, New York Div.*.....	129	116	573,881	2,914	31.00	11.06			6.60	8.40	0.70		15.70	2.0	3.35	
Amboy Div.*.....	180	49	9,508	1,888	47.44	14.41			3.30	5.50	0.50		0.30	2.00	0.62	
Belvidere Div.*.....	103	35	7,300	2,111	33.60	15.6			3.20	8.80	0.60		0.20	0.60	0.60	
Philadelphia Div.*.....	122	143	418,881	2,920	27.43	12.4			3.20	8.80	0.50		0.20	0.60	0.60	
Middle Div.*.....	132	101	338,258	3,222	24.30	10.08			4.90	4.20	0.0		0.60	1.00	2.80	
Pittsburgh Div.*.....	220	176	487,400	2,700	23.12	12.72			5.0	4.50	0.55		0.90	1.00	2.80	
Tyrene Div.*.....	119	39	61,908	2,13	21.72	17.54			6.30	4.7	0.30		11.50	1.0	2.81	
West Penn. Div.*.....	144	29	1,419	1,078	34.35	15.0			1.20	3.19	0.30		3.10	1.00	2.81	
Lewistown Div.*.....	63	10	17,800	1,700	24.6	15.03			1.70	4.0	0.41		0.93	1.0	2.81	
Bedford Div.*.....	57	4	8,764	9,91	27.89	20.4			2.10	3.73	0.30		0.00	1.0	2.96	
Frederick Div.*.....	9	9	17,514	1,924	19.27	16.29			1.0	8.41	0.60		10.00	2.73	3.05	
Pittsburgh, Va. & Charleston Div.*.....	1	9	10,800	1,000	20.00	14.0			4.1	2.0	0.50		1.0	1.0	2.0	
Pitts., Ft. Wayne & Chi., East. Div.*.....	67	151	416, 31	2,700	17.18	19.32	16.50	0.710	3.01	3.2	0.44	1.32	6.10	1.29	1.31	1.31
Western Div.*.....	281	110	307,860	2,700	34.30	15.75	23.50	0.710	3.89	4.02	0.44	0.44	6.01	10.83	1.38	1.88
Pitts. C. n. & St. Louis, Little Miami Div.*.....	107	29	114,005	3,039	38.77	11.92	18.12	0.927	3.35	5.57	0.40	2.78	5.55	17.74	2.1	1.50
P. C. & St. L. Div.*.....	224	103	288,641	2,802	26.36	9.16	18.91	0.770	4.0	3.75	0.39	1.70	5.43	13.94	0.95	1.50
Quebec, Montreal, Ottawa & Occidental, Western Div.*.....	138	308	50,831	2,038	36.70	14.10			2.57	3.75	0.31		1.95	10.58	1.02	
St. Louis & North Western.....	345	25	61,150	2,056	23.6	20.5			3.70	3.88	0.23		1.70	18.21		1.06
Savannah, Florida & Western.....	228	17	34,397	2,023	49.7				2.00	8.00	0.40		11.30	3.80	3.08	
Toledo, Peoria & Warsaw.....	228	17	34,397	2,023	49.7				2.00	8.00	0.40		11.30	3.80	3.08	
West Jersey.....	128	17	34,397	2,023	49.7				2.00	8.00	0.40		11.30	3.80	3.08	



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EDITORIAL ANNOUNCEMENTS.

Addresses.—Business letters should be addressed and drafts made payable to THE RAILROAD GAZETTE. Communications for the attention of the Editors should be addressed EDITOR RAILROAD GAZETTE.

Advertisements.—We wish it distinctly understood that we will entertain no proposition to publish anything in this journal for pay, EXCEPT IN THE ADVERTISING COLUMNS. We give in our editorial columns OUR OWN opinions, and those only, and in our news columns present only such matter as we consider interesting and important to our readers. Those who wish to recommend their inventions, machinery, supplies, financial schemes, etc., to our readers can do so fully in our advertising columns, but it is useless to ask us to recommend them editorially, either for money or in consideration of advertising patronage.

Contributions.—Subscribers and others will materially assist us in making our news accurate and complete if they will send us early information of events which take place under their observation, such as changes in railroad officers, organizations and changes of companies, the letting, progress and completion of contracts for new works or important improvements of old ones, experiments in the construction of roads and machinery and in their management, particularly as to the business of railroads, and suggestions as to its improvement. Discussions of subjects pertaining to ALL DEPARTMENTS of railroad business by men practically acquainted with them are especially desired. Officers will oblige us by forwarding early copies of notices of meetings, elections, appointments, and especially annual reports, some notice of all of which will be published.

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.

The movement for the organization of a society with this name, it is very gratifying to state, has met with very general favor among the class of people which such an association should include, and we learn that already inquiries are coming in from all over the country regarding the qualifications and privileges of membership and the probable future of the society which was so recently baptized in New York.

To those who are not acquainted with what has been done, it may be said briefly, that a meeting was held on Feb. 16, which was attended by about thirty persons, most of them prominent mechanical engineers; that the society was then christened and a constitution and by-laws were submitted for the consideration of those present, and were finally referred to a committee to be appointed by the chairman, Mr. A. L. Holley, which will report at another meeting, to be held April 7. Messrs. A. L. Holley, Prof. J. E. Sweet, H. R. Worthington, E. D. Leavitt, Jr., and Charles T. Porter were appointed a committee to nominate officers. At the next meeting the society will probably be completely organized, and, therefore, the interval is the proper time to consider some of the conditions which must be observed to insure its success.

In view of the numerous interests which are included under the term mechanical engineering, it is surprising that such an association has never been formed in this country before. Mr. Holley, in his address, which was published in the *Railroad Gazette* last week, set forth very fully the great range of subjects which would properly be represented in such a society; yet it must be admitted, and should be kept in view, that this very diversity is an obstacle in the way of the prosperity of an organization such as that contemplated. To take, for an example, those branches of mechanical engineering which are allied most nearly to railroad construction and operation, it would be found to be extremely difficult to secure the attention of master mechanics to a paper on bridge construction, or that of bridge-builders to one on the refinements of valve-gear, or that of either of them to a dissertation on the ventilation of cars. In fact, these specialties

have led to the organization of distinct associations, each devoted exclusively to some one branch of mechanical engineering, as the Master Mechanics' and Master Car-Builders' associations. In fact, it is difficult to see how such diverse subjects as the construction of ordnance and spinning machinery, ship-building and agricultural implements, metallurgical heating apparatus and the manufacture of instruments of precise measurement can have much common interest. It may be said, though, that such associations as the American Society of Civil Engineers and the American Institute of Mining Engineers discuss a very great variety of subjects. While this is true, there can be no doubt that in the former, at least, this fact has to a very great extent been the cause of dissipating the interest of its members in the proceedings. In both organizations, though, there are some common subjects in which all, or nearly all, are interested. Thus the civil engineers have "cement" always with them, and in their moments of *ennui* the mining engineers seem to turn to the riddle of "What is steel?" with the same avidity that the general public is now pouring over the puzzle of 13, 15, 14. What is true, probably, is that in the Society of Mechanical Engineers the diversity of subjects will be much greater than in any of the others, and therefore it would seem to be desirable at an early day to divide it, or the proceedings, into sections. For example, one day of each session might be given to railroad machinery and structures, one to ship-building and marine engines, another to metallurgical processes and appliances, etc., etc. The proper division would, of course, only result after some experience and more consideration than it has been possible to give to the above.

In organizing the scientific and technical associations in this country, it has been quite natural to follow the example of English precedents. This has been done in some cases in which due allowance has not been made for the difference in the conditions and circumstances which exist here and there. London is the common focus of England, and the distance to all other parts of the country is so small that it requires only a few hours to "run up to London." The result is that meetings held there at short intervals can secure an attendance of a very much larger proportion of the membership of different organizations than is possible here, where it would be necessary for many to travel thousands of miles, whereas in that country the distances are measured by hundreds. The consequence is, that associations there are localized and domiciled in London, and hold frequent meetings, seldom extending over more than one day or night at a time. Here, on the other hand, the conditions have led to what may be called the nomadic or peripatetic form of association, the meetings of which are held at longer intervals, with sessions of several days each. The Institute of Mining Engineers, the Master Mechanics' and Master Car-Builders' associations are examples of this kind. They hold their meetings annually, or oftener, in different parts of the country. The Society of Civil Engineers, on the contrary, was fashioned on the English model, and has its local habitation in New York, with monthly local meetings, but also with an annual convention, which is nomadic. The attendance and the success, or, perhaps, want of it, of the monthly meetings, as well as those of the Car-Builders, indicates the impossibility of giving a really national character to a society conducted on this plan. The nomadic plan, therefore, is the one which is imposed by the conditions which exist here, just as the old-fashioned camp meetings for religious services were required when population was sparse, and people lived too far away from churches to attend once a week; and experience has shown that technical and scientific societies, which have a national character, are more successful if conducted on the old camp-meeting principle than those which are localized. It would therefore seem to be wisest to hold most, if not all, of the meetings on the latter plan.

There is, though, at the present time, one great want, which probably an association of mechanical engineers would be more competent to supply than any other organization. That is a good engineering library. This, of course, could not be done unless the association had a local habitation. The latter would, however, not be inconsistent with the nomadic plan of holding meetings. Nearly every technical society makes some slight effort at forming a library. The result is that in New York there is quite a considerable number of fragmentary collections of books owned by different associations which have been collected without any system, which are imperfectly catalogued, or not at all, and which are of very little use to any one. Therefore, we say that a good library of this kind is needed, and unless the association can have money and ability enough to make the library a

great deal better than any now in existence in this country, it would hardly be worth while undertaking it. As such a happy condition of things is not likely to exist for some time after the new society is organized, it would doubtless be wisest to leave the formation of a library to the future, when the former shall acquire wisdom and wealth. There are now enough fragmentary and imperfect collections of this kind, and unless it is possible to make a better one than of this department of the Astor, or the Boston Public Library, it would hardly be worth while to begin.

In organizing an association of this kind, and conducting it afterward, there is nothing which is so difficult to prevent as the accumulation of influence in the hands of a party or clique. There is nothing, too, which so soon alienates the membership as this. Whenever the impression is produced on members that they are being led, or that their influence is being used for the benefit of those in power, or, figuratively, that they are turning a grindstone in order to sharpen some one else's axe, they will become weary, and withdraw from active participation in the proceedings. It is very true that often this occurs by reason of wounded vanity, and from other unreasonable motives. Some, from want of inclination, diffidence, or other causes, will never take any active part in the proceedings of associations of which they are members, but are more the less sensitive at any undue assumption of power, and will resent it by absenting themselves from the meetings, whenever the suspicion arises that there is not fair play. Often, of course, factious opposition is very unreasonable, and the dog-in-the-manger sort of member will always be found in every society. It is of the utmost importance, though, to conciliate all these classes, and therefore provide, not only that a minority may be heard, but that it may be represented in the council or management. For this reason it seems very desirable that in the organization which is now proposed, the vice-presidents and the managers should be elected by some system of what has been called minority representation or cumulative voting. As the latter is not very generally understood, a word of explanation may not be out of place. The simplest form of it consists in giving to each member as many votes as there are officers to be elected. Thus at present it is proposed that there shall be nine managers, three of whom shall be elected each year. Now by the system proposed in electing these officers each member would have three votes which he would be permitted to cast as he thought proper, that is, he could give all these to one candidate, or two to one and one to another, or one to each of these candidates. The effect of this would be that a minority of one-third of the members could always elect one manager by concentrating its votes on a single candidate, while the majority would of course elect two managers. A minority of one-third, instead of being left out altogether, could thus always be represented in the council. The vice-presidents, of whom there are to be six, two to go out of office each year, could be elected by the same method. In Illinois the members of the Legislature are elected in this way. The overseers of Harvard College are nominated by what is known as the Hare plan, which is very similar, at least so far as it secures a representation of a minority. It has also been applied very successfully in other cases, and there can be no question that it is entirely practicable and efficient.

Those who read Mr. Holley's address, published last week, will remember his remark that "a good Secretary is the concentration of good management." Only those with experience in this direction can know how true this remark is. Now while an election by universal suffrage, in a society of this kind, is doubtless the best plan of securing a representation of the members, especially if the cumulative system is used, yet it is a very inefficient way of securing a man with the best qualifications for such duties as a secretary must perform. A smaller body, like the council, would be much better able to select a good man than the large number of members scattered all over the country could. There is another weighty objection against the election of a secretary by the members. Necessarily he assumes, and must perform, duties involving a great deal of responsibility, and therefore should be held to a rigid accountability for the performance of them by those who can know whether he is faithful and competent, and who would have the power both of appointment and removal in case he is not. A scattered membership of a society which is not localized cannot know the facts until long after the interests of the association have suffered from such a cause, and removal would be almost impossible excepting at an annual election, and even then it is extremely difficult until the unfitness of the incumbent becomes so flagrant as to amount to almost

a scandal, because so few are willing to undertake the disagreeable task of defeating an incumbent officer in a general election. The council, on the other hand, constantly have the opportunity of knowing how the secretary is performing his duties; and that he would be more assiduous, if there was a feeling of personal accountability to those who oversee him, is quite certain. If the same authority which elects the members of the council also elects the Secretary it makes him quite independent of the latter. It would therefore appear to be very much wiser to make him an appointee of the council than an elective officer. This body should also have power of removal at any time after giving say two months' notice, or paying him his salary for this time.

As so much depends upon the manner in which the new society is organized, it would seem to be desirable that the committee who are to have charge of the revision of the constitution should have the results of their deliberations printed before submitting them to the next meeting, so as to give all interested an opportunity to examine each portion with more care than is possible from merely hearing it read.

THE PROPOSED NEW YORK FREIGHT LAW.

There has been this week at Albany a hearing in committee of those opposed to and in favor of what is known as the "anti-discrimination freight law" reported by the Hepburn Committee, which was published in full in our issue of Feb. 6 (page 73). This bill provides first that the railroads shall afford equal accommodations to all at equal rates; second, it prohibits charging more for carrying from a given station to another station than for carrying the same quantity from the same station a greater distance in the same direction; third, it forbids any secret rates, drawbacks or rebates by which one shipper may be given an advantage over others; fourth, no reduction may be made for quantities of more than one car-load, except when full train-loads are received at or near the borders of the state from a connecting road, and then the reduction may be not more than the saving in the cost of transferring the freight.

There is in this bill the affirmation of one public right—that the railroads should treat all their customers alike—coupled with sundry doubtful assumptions as to what is equal treatment, and one entirely wrong prohibition—that forbidding a higher charge for a shorter distance, which is assumed to be an unfair discrimination, when it may be, and very often is, just as justifiable and necessary as to charge two or three times as much for first-class as for fourth-class, or special freight, and is especially so when railroads have to meet strong water competition, as between Buffalo and New York.

The insertion of this clause was probably due to a supposed, and perhaps real, demand of farmers in the interior of the state, who have felt very severely the competition of the products of the Northwest, and have often been charged more from their local stations to New York than the railroads received for carrying the same kinds of produce from Buffalo to New York, perhaps twice as far. The complaint is of the same kind as that often heard in the West, that the freight on a shipment of goods from New York to Chicago is less than the amount charged on the same goods from Chicago to some station 50 or 60 miles further west, only the Western man complains of the extortion of the Western railroad in charging so much more than the Eastern road, while the Eastern farmer complains of gross discrimination because the Eastern railroad charges him a much higher rate than it accepts from the Western farmer who competes with him.

Doubtless in a very large number of cases, the Buffalo-New York rate has been less than the rate from the local station to New York because the rate from Buffalo has been forced down by excessive competition among the railroads below what would have been necessary to secure the freight. The remedy for this, of course, is the cooperation of the railroads so as to secure the most remunerative rate possible on the through shipments, and there has been some disposition to assert that this will be sufficient to prevent any differences, such as those complained of, between through and local rates. This is by no means certain, however. There is nothing in the nature of transportation business to prevent necessary reductions of through rates so close to the bare cost of carriage as to make them lower than what would be barely reasonable local rates. Suppose, for any reason, canal rates to fall to three or four cents per bushel from Buffalo to New York. (They have often been below four cents.) Suppose rates as low as these or lower to be effected by the deepening of the canal and the introduction of a towing system which improves the canal

transportation by making it quicker at the same time that it is made cheaper. Under these circumstances it must be for the interest of the local shippers as well as the railroad-owners to have the railroads continue to carry through grain so long as they can make more by doing so than by abandoning the traffic. With a million tons during the season of navigation the railroad may have been able to make a profit of a dollar a ton when canal rates were low, and so make this business contribute a million of dollars toward paying the interest on the investment in the railroad. Because the sharper competition of the canal makes it impossible to get rates which yield a profit of more than five cents a ton, shall the railroad refuse to carry it entirely, and add the \$50,000 which it could make from it to the charge of the local traffic, which can use no other route? Certainly it should not be claimed that when circumstances which the railroad cannot control have reduced its profits on a large part of its traffic by 95 per cent., its profits on all traffic—or any traffic not affected by these circumstances—should be reduced in proportion. Yet this is the whole philosophy of the regulation which would prohibit higher rates for one distance than for a longer one, and there are hundreds of ways in which it would have a similar effect, the through shipments not being by any means the only ones which must at times be carried at the barest trifle over cost—not the average cost, but the additional cost of carrying that particular traffic, which may be not one-fifth of the average. The public seems slow to learn that it is for the advantage of those shippers who pay the highest rates to have the railroad get any contribution to its net earnings, however small, from some one else; that it is better for Illinois and Minnesota and Kansas to pay part of the interest on the capital invested in the New York railroads than for New York to pay the whole of it.

If the Western produce could reach its market only by passing over the New York railroads, then the New York farmers might hope to make it pay whatever rates they pay themselves, and contribute proportion to their shipments, or even to the tonnage-mileage, as much as themselves to the profits of the railroads. But we know very well that Western produce will not go by the New York railroads unless they afford as cheap a route as any other to the markets where the produce is consumed. It will go by the Pennsylvania, or the Baltimore & Ohio, or the Grand Trunk, or down the Mississippi, or by the Erie Canal, if the New York roads are not free to make rates for it as low as those by these lines. And if it goes by these routes, then the New Yorker will have to support these railroads without help from this immense foreign traffic, which, when circumstances are favorable, contributes a very large share of the profits of two of the New York roads, though usually a given quantity of it contributes a much less amount than a similar quantity of state traffic.

The manufacturing business of the state might also be greatly affected by a regulation prohibiting such a discrimination. But the strong opposition shown by many manufacturers in the interior of the state, who have taken the pains to go to Albany to protest against the passage of the law, is said to be due not only to this feature of the bill, but to that prohibiting special rates to individuals. With so many roads entering the state from the south, to which the law could not be made to apply, it is said that the prohibition of such special rates would simply have the effect of turning the traffic from the New York road to the Pennsylvania or New Jersey road, depriving the manufacturer at the same time of the competition to which in many cases his low rates were largely due.

It is certainly important that the railroads should give the same terms to all when the circumstances are the same; but this is a rule to which all the carriers alike should be made subject, and not those only whose lines happen to be wholly within certain state boundaries. And, with the general law against discrimination and a public tribunal intrusted with investigating causes of complaint, it would be practically impossible for cases of unjust discrimination to continue to exist. Those suffering from them would complain of them, and if on investigation they were shown to be unjust, no corporation would dare to persist in them. Thus freedom of action might be left to the railroad companies together with perfect protection for the community.

The Winter Grain Movement.

The receipts and shipments of grain of all kinds at the eight reporting Northwestern markets (St. Louis, Peoria, Chicago, Milwaukee, Duluth, Detroit, Toledo and Cleveland), and the receipts at the seven Atlantic

ports for the three months ending with February of the past seven years have been, in bushels:

Year.	Northwestern— Receipts.	Shipments.	Atlantic— Receipts.
1874.....	35,068,000	16,494,000	25,336,321
1875.....	20,242,864	9,452,738	19,524,656
1876.....	31,594,380	15,138,535	24,550,005
1877.....	28,337,187	13,464,025	24,775,817
1878.....	33,280,272	21,570,938	43,392,488
1879.....	41,426,544	19,180,008	42,270,262
1880.....	47,000,301	17,633,783	39,477,042

The receipts at the Northwestern markets during the winter, therefore, have been 15 per cent. greater this year than last, and very much larger than ever before. The shipments from these markets, however, were 8 per cent. less than last year, and 18½ per cent. less than in 1879; and the receipts of Atlantic ports were 6.6 per cent. less than last year and 9 per cent. less than in 1878. The peculiar feature of the winter has been the accumulation of stocks at the Northwestern markets, as indicated by much greater receipts at these markets and the reduced shipments. The receipts were 12,246,000 bushels more than the receipts last year; they have been nearly 30,000,000 more this year. The receipts at Atlantic ports have been very large, however, in spite of these accumulations. We will say, in passing, that in February the shipments, as well as the receipts of Northwestern markets were larger than last year (though last year rates were but about half as high), and that the receipts of Atlantic ports were 6,664,000 bushels, or nearly 40 per cent. less. It would appear, then, that the very low rates of last year did not so much attract the grain from the lake ports as to prevent its going there, bringing it directly to the seaboard without stopping on the way. The lake cities have probably done a better grain business this winter than if the rail rates had been very low, because a great deal of grain has gone there to be sold and stored that otherwise would have passed by them or through them without stopping. As it is, by far the larger part of the supplies of the Atlantic ports have not come from the great Northwestern markets, as the total shipments of the latter for the three months have been 21,844,000 bushels less than the Atlantic receipts (against 23,090,000 last year, and 21,821,500 the year before).

The receipts of grain of all kinds (flour not included) at Atlantic ports for the three months, December, January and February, have been, in bushels, for the past four years:

	1876-77.	1877-78.	1878-79.	1879-80.
New York.....	7,786,902	17,872,293	17,370,704	15,461,199
Boston.....	3,377,404	3,365,798	3,724,301	3,964,401
Portland.....	464,109	925,960	645,591	955,349
Montreal.....	70,215	51,055	57,897	178,440
Philadelphia.....	4,420,210	8,116,410	7,739,860	5,456,010
Baltimore.....	7,439,944	8,790,500	9,047,400	8,310,517
New Orleans.....	1,156,983	4,260,477	3,084,549	5,151,126
Total.....	24,775,817	43,392,488	42,270,262	39,477,042

The aggregate receipts, as noted above, are less than in either of the two next preceding years, but vastly more than in any earlier year, and than in any winter when so high rates were received. Probably the average rate received last year was not much more than 25 cents; while this year it was 40 cents per 100 lbs. from Chicago to New York throughout the three months. Assuming that it was as much as 27½ cents last year, then the smaller traffic of this year has yielded the railroads about 36 per cent. more than last winter's business—amounting probably to the roads this side of the Mississippi to something more than \$4,000,000 on grain alone, while gains of about the same proportion were made on the flour and provisions carried.

While there has been a decrease in the total receipts at the Atlantic, there have been gains at all of the four minor ports, the losses being wholly at the great exporting cities of New York, Philadelphia and Baltimore, New York's receipts being 11 per cent., Philadelphia's 36 per cent., and Baltimore's 13½ per cent. less this year than last.

The percentage of the total received at each port in each year has been:

	1876-77.	1877-78.	1878-79.	1879-80.
New York.....	31.4	41.2	41.1	39.2
Boston.....	13.6	7.8	8.9	10.0
Portland.....	1.9	2.2	1.5	2.4
Montreal.....	0.3	0.1	0.1	0.4
Philadelphia.....	17.9	18.7	18.3	13.8
Baltimore.....	30.2	20.2	22.8	21.1
New Orleans.....	4.7	9.8	7.3	13.1
Total.....	100.0	100.0	100.0	100.0

Compared with last year, the three leading exporting cities all have smaller proportions of the total receipts, while all other places have gained. New York has fallen off 1.9 per cent., Baltimore 1.7, Philadelphia no less than 4.5 per cent. The chief gain was made by New Orleans—5.8 per cent.

Comparing New York's percentage with that of Philadelphia and Baltimore taken together, we have:

	1876-77.	1877-78.	1878-79.	1879-80.
New York.....	31.4	41.2	41.1	39.2
Philadelphia and Baltimore.....	48.1	38.9	41.1	34.9
The three cities.....	79.5	80.1	82.2	74.1

In 1876-77 Philadelphia and Baltimore together received 53 per cent. more than New York, last year just

as much, and this year New York has received in the three months 12 per cent. more than they.

Comparing New York and Boston taken together with Philadelphia and Baltimore together, we have:

	1876-77.	1877-78.	1878-79.	1879-80.
New York and Boston.	45.0	49.0	50.0	49.2
Philadelphia and Baltimore.	48.1	38.9	41.1	34.9
The four cities.	93.1	87.9	91.1	84.1

This year the excess of receipts at the two northern cities over those of their neighbors on the south was more than 40 per cent. and much larger than ever before.

Thus, so far as the competition between the three leading exporting cities is concerned, New York has gained materially and Philadelphia lost materially, while Baltimore has lost a little, but not more than any little accident might easily cause.

Record of New Railroad Construction.

This number of the *Railroad Gazette* contains information of the laying of track on new railroads as follows:

Union Pacific.—Track is laid on the *Beatrice Branch* from Valparaiso, Neb., southward to Lincoln, 22 miles.

Pittsburgh & Western.—Extended west by north to Wurtzburg, Pa., 8 miles. Gauge, 3 feet.

Wabash, St. Louis & Pacific.—The *Chicago & Straun* line is completed by laying track northeast to Auburn Junction, 48 miles.

This is a total of 78 miles of new railroad, making 575 miles thus far this year, against 141 miles reported at the same time in 1879.

THE GEORGIA RAILROAD COMMISSION has published the schedule of "reasonable maximum rates" which the law passed last fall required it to prepare. It is a beautifully simple affair, the rate being the same for all railroads in the state. For passengers four cents per mile may be charged when they buy tickets, and 4½¢ when they pay on the cars, children under 12 years of age paying half price, and 100 pounds of baggage being allowed to each passenger, and 25 cents being allowable for any distance, however short, for a full fare, and 15¢ for a half fare. For berths in sleeping cars one dollar may be charged for distances of 100 miles or less, and not more than one cent per mile for distances over 100 miles for each berth.

Freight rates are given for distances from 10 to 350 miles, and for 15 different classes of goods. For the ten classes for which rates are given per 100 lbs., they vary from 16¢ down to 4¢ for 10 miles, from 30¢ to 6¢ for 50 miles, from 45¢ to 8¢ for 100 miles, from 60¢ to 10¢ for 150 miles, from 70¢ to 12¢ for 200 miles, from 75¢ to 13¢ for 250 miles, from 80¢ to 15¢ for 300 miles, and from 85¢ to 18¢ for 350 miles. But notwithstanding the rates in the table, a railroad may charge as much as 25¢ for a single shipment, however small the quantity or short the distance. The railroads may not exceed the commission rates, but may charge less, provided that if they carry for less for one person they must for all, and if they reduce rates from one station they must make a corresponding reduction from all stations, so as to make no unjust discrimination as against any person or locality. Accompanying the commission rates is its classification of freights. The whole fills a large newspaper page. It is advertised in a newspaper in the seven chief towns of Georgia.

As this tariff is to apply to all the railroads in the state, among which are some with a very light traffic, while there are very few roads in the state which have what would be called a heavy traffic in the North, the Commission may be presumed to have aimed to establish a tariff under which the road with lightest traffic could live. But a telegram from Atlanta says that the rates are "much lower than the present figures." Nearly all the newer roads in the state have recently been bankrupt. The average capital per mile of all the Georgia roads is but about \$23,000—less than in any other state except Florida and not one-third as much as in any European country. Their average gross earnings for the last year reported were but \$3,033 per mile, and their average net earnings but \$1,082, or but 4.6 per cent. on the extremely light capital account. Interest was unpaid on nearly one-half of the funded debt, the payments being equivalent to but 3.64 per cent. on the whole debt; and the dividends paid were equivalent to 3½ per cent. on the whole capital stock.

Of course it is utterly impossible for any single table of maximum rates to be at once just to the roads and afford any check whatever, except on a few of the very poorest and least important roads. The rates which will permit the little 20-mile-long road, with a light mixed train six times a week, barely to live, will be several times as high, perhaps, as the highest which the road with a fair traffic would ever think of charging. But the Commission under the law was required to prepare a schedule of "reasonable maximum rates."

THE OPENING OF LAKE NAVIGATION is almost sure to be as early as the first of April, which is the same as last year and a month earlier than usual. The lakes were open all this month, but the insurance companies make a rule not to give insurance on lake vessels before the first of April. These companies, being now engaged in cutting rates, it has been suggested this week that they might be induced to insure this year from the 15th of March, and if they did a fleet of grain-laden vessels would sail from Chicago and Milwaukee next Monday, and the effectiveness of the lake market this season would be materially increased, and the average rates both

by lake and rail before harvest would be lower than if navigation opened later. But there is not yet any probability that lake navigation will begin before April, and if it does it will have but a limited effect until the Erie Canal is also open, which cannot be much before the middle of April or the first of May unless the weather the rest of this month is extraordinarily mild. The news from Buffalo is that canal freights will probably open as low as 6½¢ cents a bushel for corn and 7 for wheat to New York, which is about what the lake vessels are now contracting for from Chicago to Buffalo. Ordinarily, the rate on the canal is from 50 to 100 per cent. higher than the lake rate, but there may be more demand for lake vessels than for canal-boats this spring. The Buffalo Elevator Association gets about 1½¢ cents a bushel out of the grain when it has things its own way, but it is reported that its contract will terminate May 1. When the competition is free, the cost of elevating is usually not more than half a cent. The present prospect is that it will cost about 14½¢ cents a bushel to get the first cargoes of wheat through from Chicago to New York, the rail rate being now 21 cents. But with these water rates the railroads can probably do a very fair business at 30¢ cents per 100 lbs. (18¢ cents a bushel for wheat). Heretofore for several years rates have gone down materially from the opening of navigation to the end of June, reaching 1½¢ cents a bushel for corn and 1½¢ for wheat; but the rates open very much higher this year, and such is the demand for vessels for the lumber and iron-ore trades that no one expects anything like such a reduction this year. Indeed, it has been said that the season contracts that have been made for carrying iron ore are as good as 5½¢ cents a bushel for grain the season through. There is, too, an exceptionally large amount of grain to come forward, not only at the country stations and on the farms, but in the elevators of lake ports.

THE TEHUANTEPEC INTER-OCEAN RAILROAD COMPANY is almost the first railroad company since 1873 to advertise to the public securities based upon a railroad which is yet to be built. It offers what are called "subsidiary preferred and convertible certificates" to the amount of \$500,000, which are to "entitle the holders to participate in all dividends or distributions of money or assets which shall be made or declared by the railroad company, and in addition thereto to be paid interest for 15 years at the rate of 5 per cent. per annum by the railroad company." They are also convertible into the company's 7 per cent. bonds until 1882. They are therefore really shares of the company guaranteed an extra dividend of 5 per cent. for 15 years and convertible into bonds for two years. There are to be \$6,000,000 in all of these preferred certificates, and \$14,000,000 of the unpreferred—for a line about 150 miles long, or at the rate of \$40,000 of preferred and \$93,333 of unpreferred per mile of road. With the proceeds of the \$500,000 of certificates now offered (at par), of \$200,000 similar certificates already negotiated, and a subsidy of \$12,000 per mile receivable from the Mexican government, it is said to be "reasonably certain" that the company can complete the first 50 miles of its road, and the harbor improvements at the eastern terminus within 12 months. This would make the whole cost of this 50 miles \$1,300,000, or \$26,000 per mile. The Mexican subsidy, however, is not payable in money, but in scrip receivable for customs, and in which a certain proportion of the duties must be paid. With 50 miles of the road in operation, it is thought that it will not be difficult to raise money on favorable terms to complete the rest of it—which is doubtless true if the new road appears to be earning tolerable profits.

It appears thus that the purchasers of these certificates virtually become partners in the enterprise of building the road, with certain privileges. And the company's advertisement makes no concealment of this. It is proposed to sell the certificates in blocks of \$25,000, and give with each one 120th interest in the association, while purchasers of \$5,000 will receive a proportionate interest. This is a legitimate enterprise, but it should not be confounded with what are commonly called "investments in securities." It is rather a speculative enterprise in which all the values, not to say profits, have yet to be created, and in which, together with chances of great profits, there are also chances of great losses.

THE PETROLEUM TRAFFIC seems to have an almost unlimited capacity for growth, and this year the business, and especially the export business, has been greater than ever before. Returns for January show an increase of about 30 per cent. in the production of the wells and of very nearly 150 per cent. in the shipments thence, compared with last year; and for the months of January and February this year the exports have been 63,684,000 gallons against 37,000,000 last year, and last year the exports in these months were nearly one-third larger than were ever known before. Not much money has been made from the carrying of petroleum thus far this year, however. The recent settlement of the difficulties between the trunk lines, the Tide-Water Pipe Line, the Standard Oil Company and the producers will doubtless make it possible to get better rates for carrying petroleum over certain routes; but the day has passed when what used to be known as good rates can be secured. The Standard Company itself has spoiled what used to be an enormous rail business, by laying a pipe line from the wells to Cleveland; a new pipe line is to be laid to Buffalo; and though there is not now any pipe line through to the sea, and the Tide-Water Line has accepted a certain percentage of the business as its share, and has no motive to keep down rates, we may be sure that if rates are had that yield anything more than a moderate profit, a line to the sea-board will soon be had. But with this great growth of the business, a considerable income may be had from rates that yield even

a very moderate profit; and on the enormous business of distributing the refined oil throughout the country, a very satisfactory rate may usually be secured.

THE REDUCTION OF EAST-BOUND RATES made at the Chicago meeting of the Joint Executive Committee was not followed by any decided change in the amount of shipments. Strange to say, in spite of the general expectation of a reduction in rates, the shipments were exceptionally large the last week in February. During the first week of March, under the reduced rates, the shipments from Chicago were almost exactly the same as in the previous week (five tons less). It is not easy to trace any effect on prices of grain from the reduction. They are about the same in New York as before. The cost of transporting grain from the West to Liverpool is just about as great as at any time from the first of January till the last week in February. About a week before the reduction of rail rates, steamer rates from New York to Liverpool, which had rarely been more than 3d. per bushel since December, rose to 5d. and 5½d., and these rates have been maintained pretty steadily since. The advance by sea of course cannot be charged to the reduction by rail, because it occurred about a week earlier. It was rather due to a more active export demand.

General Railroad News.

MEETINGS AND ANNOUNCEMENTS.

Meetings.

Meetings will be held as follows:
Northwestern Grand Trunk, special meeting in Chicago, March 25, to vote on consolidation with the Indiana Railroad Company, the Michigan Railroad Company and the Chicago & Northeastern, to consolidate in one organization, the Grand Trunk line from Port Huron to Chicago.
Atchison & Nebraska, special meeting, in Atchison, Kan., March 25, to vote on the proposed lease of the road to the Chicago, Burlington & Quincy.
Pennsylvania, annual election, at the office of the company, No. 233 South Fourth street, Philadelphia, March 23. Polls will be open from 10 a. m. to 6 p. m.

Dividends.

Dividends have been declared as follows:
New York Central & Hudson River, 2 per cent., quarterly, payable April 15.
Chicago & Northwestern, 1½ per cent., quarterly, payable March 29.
Lehigh Valley, 1 per cent., quarterly, payable April 15.
Western Union Telegraph, 1½ per cent., quarterly, payable April 15.
Dubuque & Sioux City (leased to Illinois Central), 2½ per cent., half-yearly; also an extra dividend of 1 per cent. from sale of lands, both payable April 15.

Master-Car Builders' Monthly Meeting.

The March meeting of the Master Car-Builders' Association will be held at the rooms, No. 113 Liberty street, New York, March 18, at 7 p. m. This meeting is to be devoted to the exhibition of models and samples of anything pertaining to railroad cars and their furnishings, and inventors and manufacturers are requested to send such models and samples to the rooms in time for the meeting.

Indianapolis Ticket Agents' Meeting.

A meeting of general passenger agents was held in Indianapolis, March 2, to take measures to stop cutting of rates and other irregular practices. The roads represented were the Vandalia Line; Indianapolis & St. Louis; Wabash, St. Louis & Pacific; Lake Erie & Western; Cleveland, Columbus, Cincinnati & Indianapolis; Pittsburgh, Cincinnati & St. Louis; Indianapolis, Decatur & Springfield; Indianapolis, Peru & Chicago; Indiana, Bloomington & Western; and the Cincinnati, Wabash & Michigan. Mr. A. J. Smith presided and Mr. G. W. Smith was Secretary.

After much discussion, an agreement was drawn up, of which the main points are that if any road is found cutting rates—that is, reducing the price on tickets from the regular schedule rate—the tickets of that road shall be thrown off sale by all other roads in the district for 10 days, and for a second offense they shall be thrown off for 20 days, and so on. Besides this, there is a section which provides that the traveling or resident agent of any road found cutting rates shall at once be discharged by the road by which he is employed, never to be again employed, and that none of the other roads, a party to this compact, shall furnish him employment, and any road that extends the limit for more than three days shall be fined \$25.

This was signed by all the roads present, except the Indiana, Bloomington & Western, whose representative had not the necessary authority. It was finally decided to submit the agreement to the Central Association at the coming meeting in Cincinnati, and also to the managers of the roads concerned.

Central Association, General Passenger & Ticket Agents.

The following circular has been issued by Mr. George H. Daniels, Secretary of this Association:

"I am requested by the constitutional number of members to call a meeting of the Central Association, to be held at the Grand Hotel, Cincinnati, between the 16th and 20th days of March, 1880, the precise time to be designated by the secretaries of the two associations in a card to be issued at Cincinnati about March 16, and mailed to each member of these associations in attendance at the National Association, the objects of which meeting are as follows:

"1. To discuss the proposition to consolidate the Central and Western associations.

"2. To revise the 'colonists' rate-sheet.'

"Upon this subject I desire to call your attention to the following resolutions, which were adopted at a meeting of several members of the two associations, held at Chicago, Feb. 27, 1880:

"*Resolved*, That on and after April 1, 1880, no round-trip land tickets to any Western or Southern points shall be issued other than to such places as are named in the Chicago and other district rate sheets, the intention being to issue such tickets to one point only on any road.

"*Resolved*, That inasmuch as it is decided to issue round-trip tickets for so-called land-grant roads, only to one point on such land-grant roads, we specially request representatives of roads not so represented, to come to the National Convention of General Passenger and Ticket Agents, to be held in Cincinnati March 16, prepared to name such point for their respective roads not already provided for.

"3. The adoption of some amendments to the constitution, of which notice was given at the last meeting.

"4. Such other business as may properly come before the meeting.

"Upon arrival at Cincinnati, as soon as I can ascertain from members present what hour would be most convenient for a joint session of the two associations, a card will be issued, giving notice to all of the date and hour for the joint meeting, and it is hoped that such an attendance will be had as shall make the meeting a success.

"Members interested in the round-trip business, who find they cannot be present at Cincinnati, will confer a great favor upon us by forwarding any rates, or other information they may have, to me, care Grand Hotel, so as to reach me by the 16th. Those desiring land points inserted in the sheet will please observe that it is agreed to give each road but one point.

"Those who desire to express an opinion as to the consolidation of the two associations, and are unable to attend the meeting, can do so by addressing their letters to the undersigned, at Grand Hotel, Cincinnati, so as to reach me there by the 16th inst.

"A full attendance is desirable on many accounts, as the business to be transacted affects, more or less, every line in the territory of both associations."

ELECTIONS AND APPOINTMENTS.

Bradford, Bordell & Kinzua.—The directors of this new company are: Richard G. Taylor, Wilson S. Bissell, Peter Rafferty, Buffalo, N. Y.; Robert G. Parsons, Aurora, N. Y.; Robert F. Ewing, Pine Valley, N. Y.; W. W. Brown, F. E. Boden, Bradford, Pa.; A. I. Wilcox, Wilcox, Pa.; Manley Crosby, Corry, Pa.; John J. Carter, B. N. Hurd, Titusville, Pa. Mr. John J. Carter is President.

Burlington, Cedar Rapids & Northern.—The new board has elected officers as follows: President, Joshua Tracy, Burlington, Ia.; Treasurer, Alexander Taylor, New York. Mr. Tracy succeeds Frederick Taylor, of New York; Mr. Taylor is re-elected.

Cincinnati, Indianapolis, St. Louis & Chicago.—This company was organized as successor to the Indianapolis, Cincinnati & LaFayette at Indianapolis, March 6, when the following directors were chosen: Charles W. Short, George Willshire, George W. Hoadley, M. E. Ingalls, S. J. Broadwell, Cincinnati; Thomas A. Morris, W. H. Bates, Indianapolis; Thomas D. Messler, Pittsburgh; John King, Jr., Baltimore; George Bliss, Thomas H. Sharpe, Charles G. Landon, New York; Thomas H. Perkins, Boston. Messrs. Ingalls, Morris, Bliss, Landon and Perkins were directors of the old company. The board elected M. E. Ingalls President; E. F. Osborne, Secretary and Treasurer; Joseph W. Sherwood, Superintendent; John Egan, General Passenger and Ticket Agent; H. J. Page, General Freight Agent. These are the old officers.

Cleveland, Tuscarawas Valley & Wheeling.—At the annual meeting in Cleveland, March 10, the following directors were chosen: Selah Chamberlain, W. S. Streater, Amasa Stone, James Mason, R. P. Myers, Cleveland, O.; H. B. Perkins, Warren, O.; Clement Russell, Massillon, O.; W. W. Holloway, E. P. Rhodes, Bridgeport, O. There is no change from last year.

Dubuque & Muscatine.—The officers of this company are: President, J. P. Farley, Dubuque, Iowa; Vice-President, D. S. Wilson, Dubuque, Iowa; Secretary, P. D. Swigart, Wyoming, Iowa; Treasurer, S. G. Stein, Muscatine, Iowa.

Fall River, Warren & Providence.—At the annual meeting in Warren, R. I., March 8, the following directors were chosen: Thomas J. Borden, John S. Brayton, Charles F. Choate, Royal W. Turner, E. W. Willard, E. N. Winslow. The road is owned by the Old Colony.

Grand Rapids & Indiana.—At the annual meeting in Grand Rapids, March 3, the following directors were chosen: H. J. Hollister, W. R. Shelby, W. O. Hugbart, Grand Rapids, Mich.; J. G. Waite, Sturgis, Mich.; S. S. Cobb, Kalamazoo, Mich.; Pliny Hoagland, C. A. Zollinger, Ft. Wayne, Ind.; Thomas D. Messler, J. N. McCullough, Wm. Thaw, Pittsburgh; George B. Roberts, Thomas A. Scott, Philadelphia; Robert B. Potter, New York. The board re-elected W. O. Hugbart President and General Manager; W. R. Shelby, Vice-President and Treasurer; J. H. P. Hugbart, Secretary and Paymaster; F. A. Gorham, Auditor; A. B. Let, General Freight and Passenger Agent; J. M. Metheany, Superintendent Northern Division; P. S. O'Rourke, Superintendent Southern Division.

Hartford & Connecticut Valley.—In Hartford, March 10, this company was fully organized as successor to the Connecticut Valley, and the following directors chosen: Daniel C. Spencer, Saybrook, Conn.; Samuel Babcock, Middletown, Conn.; T. M. Allyn, Charles T. Hilley, Richard D. Hubbard, Henry Kellogg, Charles M. Beach, Franklin Chamberlain, Hartford, Conn.; Chester W. Chapin, Springfield, Mass. Mr. Chapin's election indicates a lease of the Connecticut Central, of which he is now chief officer.

Housatonic.—At the annual meeting in Bridgeport, Feb. 27, the old board was re-elected, as follows: David S. Draper, Great Barrington, Mass.; A. B. Mygatt, New Milford, Conn.; Wm. H. Barnum, Lime Rock, Conn.; George W. Peet, Falls Village, Conn.; Horace Nichols, Wm. D. Bishop, Bridgeport, Conn.; Edward Leavitt, John B. Peck, Samuel Willets, New York. The board re-elected Wm. H. Barnum President; David S. Draper, Vice-President; Charles K. Averill, Secretary and Treasurer; L. B. Stillson, Superintendent.

Indiana & Chicago.—The directors of this new company are: Wm. Fasing, W. T. Singleton, M. L. Hunston, J. B. Fosman, George Hardy, S. C. Spoor, Z. A. Little, Blake Wilson, N. C. Wickwire, office at Attica, Ind.

Indiana, Bloomington & Western.—Mr. C. E. Henderson has been appointed Auditor, in place of Mr. Chauncy Kelsey, resigned. Mr. Henderson was recently on the Atchison & Nebraska.

Indianapolis & Evansville.—This company has been organized in Indianapolis by the election of the following directors: Igram Fletcher, M. Henning, R. G. Hervey, J. J. Kleiner, T. A. Lewis, John C. New, A. D. Streight, Charles Vele, George H. Wright. The board elected John C. New, President; R. G. Hervey, Vice-President and General Manager; C. S. Lewis, Secretary and Treasurer.

Kansas City, St. Louis & Chicago.—At the annual meeting recently the following directors were chosen: W. H. Mitchell, George Straut, John W. Woodson, Thomas Shackelford, Harvey Higgins, John W. Reed, R. P. Tansey, John J. Mitchell, F. H. Rea. The road is controlled and leased by the Chicago & Alton.

Nashville, Chattanooga & St. Louis.—Mr. John W. Mass, General Passenger Agent of the St. Louis Division, has been appointed also General Freight Agent of the same division.

New York & Long Branch Extension.—The directors of this company are: F. S. Lathrop, Anthony Reckless, Benjamin Williamson, Henry S. Little, William H. Tillingshast, R. W. De Forrest, James Moore.

New York Central & Hudson River.—Mr. J. H. Rutter, now Traffic Manager, has been elected Third Vice-President, a new office.

Northern Central.—The new board has re-elected Thomas A. Scott, President; A. J. Cassatt, Vice-President; Stephen W. White, Secretary; J. S. Leib, Treasurer.

Old Colony.—The board has elected Mr. John J. Russell, of Plymouth, Mass., a director, in place of Jacob H. Loud, deceased.

Pensacola.—The Louisville & Nashville Company having taken possession of this road and its Selma Extension March 1, General Manager de Funiak issues the following order: "W. D. Chipley is appointed Superintendent of the Pensacola & Selma Railroad Companies. He will be obeyed accordingly."

Philadelphia & Reading.—The office of George A. Schaffer, General Eastern Agent of this company, has been removed from No. 8 Exchange place, to No. 210 Washington street, Boston.

Richmond & Allegheny.—The directors of this company are as follows: H. C. Parsons, Charles E. Wartham, Richmond, Va.; Henry Miller, Columbus, O.; Cyrus H. McCormick, Chicago; James G. Blaine, Augusta, Me.; George H. Bartholomew, Hartford, Conn.; Francis O. French, Shepherd Homans, Conrad N. Jordan, Hugh McCullough, Samuel Shethar, New York. The officers are: President, George H. Bartholomew; Vice-President, H. C. Parsons; Secretary, Shepherd Homans.

The trustees under the purchase agreement with the James River & Kanawha Canal, are H. K. Ellyson, of Richmond, and Henry M. Alexander, of New York.

Rumford Falls & Buckfield.—At the annual meeting in Canton, Me., last week, the following directors were chosen: S. C. Andrews, R. C. Bradford, Otis Hayford, N. L. Marshall, Israel Washburn, Jr. The board re-elected Israel Washburn, Jr., President; George D. Bisbee, Clerk; S. C. Andrews, Treasurer; Otis Hayford, Superintendent; R. C. Bradford, Ticket Agent.

St. Joseph & Des Moines.—The following directors have been chosen: W. W. Baldwin, John W. Huntly, John L. Motter, George Olds, C. E. Perkins, H. H. Scott. The road is now controlled by the Chicago, Burlington & Quincy.

St. Paul, Chicago & Omaha.—At a meeting held in St. Paul, Minn., March 3, the following directors were chosen for this consolidated company: John Q. Adams, C. H. Bigelow, E. F. Drake, John L. Merriam, A. H. Wilder, St. Paul; Philetus Sawyer, Oshkosh, Wis.; P. L. Cable, Rock Island, Ill.; H. H. Porter, Chicago; H. R. Bishop, Benjamin Brewster, David Dows, Josiah M. Fiske, R. P. Flower, August Kuntze, George I. Seney, New York. The board elected H. H. Porter President; E. F. Drake, First Vice-President; Benjamin Brewster, Second Vice-President; George A. Hamilton, Secretary; R. P. Flower, Treasurer; R. S. Edgerton, Assistant Treasurer.

The consolidated companies retain their separate organizations for the present, and the following elections and changes have taken place at meetings held March 5: **St. Paul & Sioux City.**—R. P. Flower, David Dows, H. R. Bishop, J. M. Fiske, P. L. Cable, Philetus Sawyer, J. Q. Adams, Benjamin Brewster, directors, in place of J. S. Prince, H. G. Harrison, G. A. Harrison, H. H. Sibley, Wm. Rhodes, R. F. Hersey, G. A. Hamilton and R. Blakely, resigned. **Chicago, St. Paul & Minneapolis.**—President, H. H. Porter; First Vice-President, Philetus Sawyer; Second Vice-President, Benjamin Brewster; Directors, H. H. Porter, David Dows, R. P. Flower, A. Kuntze, H. R. Bishop, Benjamin Brewster, Josiah M. Fiske, Philetus Sawyer, P. L. Cable, John Comstock, E. F. Drake, John L. Merriam, A. H. Wilder. **North Wisconsin.**—President, H. H. Porter; Vice-President, Philetus Sawyer; Treasurer, R. R. Flower; Assistant Treasurer, John A. Humbird; Directors, David Dows, R. P. Flower, Benjamin Brewster, J. M. Fiske, Philetus Sawyer, John A. Humbird, H. H. Porter, E. F. Drake, John L. Merriam. **St. Paul, Stillwater & Taylor's Falls.**—President, E. F. Drake; Secretary, E. W. Ruff; Treasurer, G. A. Hamilton.

Scioto Valley.—Mr. H. L. Morrill has been appointed General Superintendent. He was recently Receiver of the Central Railroad of Iowa.

Mr. John J. Archer, General Freight Agent, has been appointed General Ticket Agent also.

Springfield & Western Missouri.—At the annual meeting in Springfield, Mo., March 2, the following directors were chosen: George H. Nettleton, Nathaniel Thayer, J. S. Ford, T. F. Oakes, L. H. Murray, H. H. Hunnewell, J. N. A. Griswold, Wallace Pratt, M. E. Jones. The road is controlled by the Kansas City, Ft. Scott & Gulf Company.

Union Pacific.—At the annual meeting in New York, March 10, the old board was re-elected as follows: E. H. Baker, Eliza Atkins, F. Gordon Dexter, Boston; Frederick L. Ames, Easton, Mass.; Sidney Dillon, David Dows, Jay Gould, Solon Humphreys, Russell Sage, Thomas T. Eckert, New York; Wm. L. Scott, Erie, Pa.; Carlos S. Greeley, St. Louis; G. M. Dodge, Council Bluffs, Ia.; S. H. H. Clarke, Omaha, Neb.; John Sharp, Salt Lake, Utah. The board re-elected Sidney Dillon, President; Eliza Atkins, Vice-President; Henry McFarland, Secretary and Treasurer.

PERSONAL.

—Dr. George Kittredge, who died at Newmarket, N. H., March 6, after a long illness, was one of the first directors of the Boston & Maine Company, and served on the board over 20 years. He was a prominent citizen, and represented his town in the state legislature several years, besides serving two terms in Congress.

—Mr. E. K. Hyndman, General Superintendent of the Pittsburgh Division of the Baltimore & Ohio, has resigned that position to take charge of the business of the Connelville Coke & Iron Company, a new organization. Mr. Hyndman has been in charge of the Pittsburgh & Connelville road for many years.

—Col. Frank K. Hain, on leaving the Keokuk Division of the Rock Island road for his new position as Assistant General Manager of the Manhattan Elevated lines, was presented with a valuable silver set by the employees of the division.

—Mr. Wm. J. McAlpine has been chosen Engineer of the Department of Parks of New York. Mr. McAlpine is an engineer of world-wide reputation, and has had charge of numerous and important works in the United States and Europe. In his new position he will have charge of the building of two large bridges over the Harlem River.

—The Midland Railway Company, of England, at its recent annual meeting, voted the handsome gratuity of £10,000 to Mr. James J. Allport, the retiring General Manager, "as an expression of the gratitude of the shareholders for the services rendered by him to the company as its General Manager during 26½ years, and as an acknowledgment of the ex-

ceptional ability, energy and public spirit which have so largely contributed to the progress and development alike of the Midland Railway and of the great industrial districts which it works." Mr. Allport had been in the receipt of a salary of £4,000.

TRAFFIC AND EARNINGS.

Railroad Earnings.

Reports of earnings for various periods have been received as follows:

Year ending Dec. 31:	1879.	1878.	Inc. or Dec.	P. c.
Chicago, Bur. & Quincy.....	\$14,778,000	\$14,149,765	I.	\$628,235 4.6
Net earnings.....	7,221,000	6,247,750	I.	973,250 15.6
Cleve., Col., Cin. & Ind.....	3,758,908	3,528,714	I.	230,194 6.9
Net earnings.....	949,647	707,880	I.	241,767 34.1
Detroit, Lansing & No.....	1,108,933	970,034	I.	138,899 14.3
Net earnings.....	449,145	372,190	I.	76,956 20.7
Grand Rapids & Indiana.....	1,345,134	1,200,029	I.	145,105 12.0
Net earnings.....	432,945	242,458	I.	190,487 78.4
St. L., Alton & Terre Haute, Belle-ville Line.....	565,602	506,450	I.	59,152 11.7
Net earnings.....	275,850	239,621	I.	36,229 15.1
St. L., Iron Mt. & So.....	5,201,611	4,514,321	I.	687,290 15.2
Net earnings.....	2,340,555	1,945,950	I.	394,605 20.3
Month of December:				
Col., Chi. & Ind. Cent.....	\$358,962	\$307,573	I.	\$51,389 16.7
Net earnings.....	110,556	53,782	I.	56,774 208.9
Two months ending Feb. 28:				
Atchison, Top. & Santa Fe.....	\$917,500	\$683,819	I.	\$233,681 34.2
Bur., Cedar Rap. & No.....	349,486	214,638	I.	134,848 62.8
Can. Pacific.....	2,201,000	2,145,857	I.	55,143 2.6
Chi. & Eastern Ill. Chi., Mil. & St. Paul.....	1,502,000	1,067,841	I.	434,159 40.7
Chi. & Northwest-ern.....	2,308,432	1,867,044	I.	441,388 21.0
Chi., St. Paul & Minn.....	158,098	138,442	I.	19,656 14.2
Cleve., Col., Cin. & Ind.....	708,251	584,328	I.	123,923 31.5
Denn., So. Pk. & Pac.....	270,730	50,409	I.	220,321 453.9
Det., Lansing & No.....	159,886	121,204	I.	38,682 31.9
Grand Trunk.....	1,490,281	1,373,375	I.	116,906 8.5
Han. & St. Joe.....	329,940	274,085	I.	55,855 20.4
Little Rk. & Ft. Smith.....	90,706	48,597	I.	42,109 86.6
Louisv. & Nash-ville.....	1,705,083	872,142	I.	832,941 38.2
Mo., Kan. & Texas Mobile & Ohio.....	603,433	394,300	I.	209,133 52.8
Og. & Lake Cham-plain.....	449,800	365,144	I.	84,656 23.2
St. L., Iron Mt. & So.....	52,950	34,911	I.	18,039 51.7
St. L. & San Fran-cisco.....	1,045,065	673,190	I.	371,875 51.3
St. L. & San Fran-cisco.....	395,330	165,425	I.	229,905 139.0
Texas & Pacific.....	457,423	172,531	I.	284,892 62.3
Tledo, Peoria & Warsaw.....	198,407	172,531	I.	25,876 15.0
Union Pacific.....	1,880,997	1,438,302	I.	442,695 30.8
Wabash, St. L. & P.....	1,543,005	1,167,035	I.	375,970 32.2
Month of January:				
Ala. Gt. Southern.....	\$55,375	\$53,941	I.	\$1,434 2.6
At. & Gt. Western.....	389,486	298,046	I.	91,440 23.5
At. Miss. & Ohio.....	156,870	100,894	I.	55,976 35.7
Albany & Susque-hanna.....	96,062	77,392	I.	18,670 19.4
Canada Southern.....	290,000	191,000	I.	99,000 34.0
Chi., Bur. & Quin-cy.....	1,200,237	1,105,097	I.	95,140 8.6
Central Iowa.....	78,019	58,061	I.	19,958 25.7
Delaware & Hud-son, Pa.....	112,163	88,063	D.	24,100 21.4
Eastern.....	202,314	163,235	I.	39,079 24.1
Mobile & Mont-gomery.....	78,154	80,809	I.	2,655 3.4
N. Y. & Canada.....	49,810	25,587	I.	24,223 48.6
N. Y., Lake Erie & Western.....	1,296,381	1,147,173	I.	149,208 11.6
Net earnings.....	349,816	185,147	I.	164,669 88.7
Northern Central.....	334,444	265,092	I.	69,352 20.7
Ren. & Saratoga.....	114,451	79,549	I.	34,902 30.5
St. Paul & Duluth.....	38,190	23,451	I.	14,739 38.6
Scioto Valley.....	21,412	20,540	I.	872 4.1
Month of February:				
Atch. Top. & Santa Fe.....	\$444,000	\$309,107	I.	\$134,893 30.3
Bur., Cedar Rap. & No.....	165,170	97,276	I.	67,894 69.8
Central Pacific.....	1,038,000	1,036,001	D.	1,999 0.2
Chi. & Eastern Ill. Chi., Mil. & St. P.....	83,465	60,363	I.	23,102 27.9
Chi. & Northwest.....	739,000	606,000	I.	133,000 18.1
Chi., St. P. & Minn.....	1,153,800	880,923	I.	272,877 23.9
Cleve., Col. Cin. & Ind.....	74,456	64,572	I.	9,884 13.3
Denn., So. Pk. & Pac.....	375,619	299,380	I.	76,239 20.3
Det., Lansing & No Hann. & St. Joe.....	135,430	30,932	I.	104,498 338.2
Little Rock & Ft. Smith.....	78,176	58,025	I.	20,151 25.8
Net earnings.....	157,508	137,038	I.	20,470 13.5
Louisville & Nash-ville.....	40,850	23,579	I.	17,271 73.2
Marietta & Cin.....	22,150	7,348	I.	14,802 202.2
Mo., Kan. & Texas Mobile & Ohio.....	557,412	427,096	I.	130,316 23.4
Og. & Lake Cham-plain.....	151,716	125,809	I.	25,907 17.0
St. L., Iron Mt. & So.....	326,306	194,836	I.	131,470 40.2
Texas & Pacific.....	203,300	170,638	I.	32,662 16.1
Tledo, Peoria & Warsaw.....	22,749	16,842	I.	5,907 25.8
Union Pacific.....	492,450	339,161	I.	153,289 30.7
Wabash, St. L. & P.....	190,634	86,026	I.	104,608 132.1
Week ending Feb. 29:				
Atch. Top. & Santa Fe.....	105,101	77,024	I.	28,077 35.4
Central Pacific.....	1,021,997	747,761	I.	274,236 26.7
Chi. & Eastern Ill. Chi., Mil. & St. P.....	702,559	595,810	I.	106,749 15.2
Chi. & Northwest.....	23,297	15,062	I.	8,235 35.4
Chi., St. P. & Minn.....	\$13,588	\$6,932	I.	\$6,656 96.2
Grand Trunk.....	\$80,218	\$80,780	D.	562 0.7
Week ending Feb. 28:				
Atch. Top. & Santa Fe.....	\$200,740	\$167,354	I.	\$33,386 19.0

Southwestern Pool.

Dispatches from St. Louis say: "On March 9 the representatives of the Hannibal & St. Joseph, the Wash. St. Louis & Pacific and the Missouri Pacific companies held a secret meeting in that city and formed among themselves a new Southwestern pool. The question of percentages was referred to W. E. Strong, General Manager of the Atchison, Topeka & Santa Fe Company, it being agreed that his decision shall date back to Dec. 1, the date of the virtual disruption of the old pool. All three roads are owned

by Jay Gould; and Tuesday's movement consequently means a declaration of war upon the Chicago, Rock Island & Pacific, the Chicago & Milwaukee, the Chicago & Alton, the Chicago, Burlington & Quincy, and the Kansas City, St. Joseph & Council Bluffs railroads, which were members of the old pool. It also indicates Jay Gould's purpose not to pay the \$34,000 due by the Missouri Pacific Company to the old pool.

Coal Movement.

Anthracite coal tonnages for the two months ending Feb. 28 are reported as follows, the tonnage credited to each road being only that originating on the line:

	1880.	1879.	Inc. or Dec.	P. c.
Philadelphia & Reading.....	700,724	880,459	D. 173,715	19.7
Northern Central, Shamokin Div., and Summit Branch R. R.....	69,742	63,162	I. 6,580	10.4
Sunbury, Hazleton & Wilkesbarre.....	6,341	3,990	I. 3,351	58.8
Central of N. J., Lehigh Div.....	450,230	403,402	D. 46,828	6.9
Lehigh Valley.....	552,045	437,024	I. 114,721	26.2
Penn. & New York.....	1,632	4,770	D. 3,138	65.4
Del., Lacka. & Western.....	511,336	400,629	I. 20,707	4.2
Del. & Hudson Canal Co.....	517,414	416,921	I. 100,493	24.1
Pennsylvania Coal Co.....	80,862	155,513	D. 65,651	42.2
State Line & Sullivan.....	7,011	9,082	D. 2,051	27.3

Total anthracite.....2,021,937 2,050,412 D. 28,475 1.3

The present arrangement for curtailing production by stopping a part of each week is said to work well, and better prices are now obtained than for a long time past. The production about covers present demand, and the stocks on hand are pretty well worked off. With higher prices, however, an increase in miners' wages will probably be called for soon.

The production of anthracite for the two months for six years past was as follows:

1880.....	2,021,937	1877.....	2,279,216
1879.....	2,050,412	1876.....	1,528,804
1878.....	2,020,446	1875.....	1,410,615

Semi-bituminous and bituminous tonnages reported for the two months are as follows:

	1880.	1879.	Inc. or Dec.	P. c.
Semi-bituminous:				
Cumberland, all lines.....	202,422	135,197	I. 67,225	54.1
Huntingdon & Broad Top.....	31,445	21,576	I. 9,869	45.7
East Broad Top.....	7,431	9,572	D. 2,141	28.6
Frederick & Clearfield.....	315,989	180,932	I. 135,057	66.3
Belleville & Snow Shoe.....	10,441	4,908	I. 5,533	111.8
Total semi-bituminous.....	627,419	360,905	I. 266,514	73.8
Bituminous:				
Barclay R. R. & Coal Co.....	60,514	60,755	I. 241	14.4
Allegheny Region, Pa. R. R.....	4,571	23,813	I. 21,758	91.4
Penn. & Westmoreland.....	161,198	113,028	I. 50,170	50.0
West Penn. R. R.....	34,635	31,093	I. 3,542	11.4
Southwest Penn. R. R.....	10,393	4,805	I. 5,588	112.4
Pittsburgh Region, Pa. R. R.....	52,741	62,177	D. 9,436	15.2
Total bituminous.....	381,862	295,371	I. 86,491	63.0

Clearfield production is almost stopped by a strike among the miners, and there is a consequent advance in prices; railroad tolls to tide-water have also increased 50 cents per ton. Tolls on Cumberland by rail have also been advanced 50 cents, and canal tolls for the season will probably be advanced over those of last year. The semi-bituminous coals bring a higher price now, on account of the advance in anthracite.

Tonnages of coke by railroad are reported as follows:

	1880.	1879.	Inc. or Dec.	P. c.
Belleville & Snow Shoe.....	73
Allegheny Region, Pa. R. R.....	9,573	8,293	I. 1,280	16.7
Penn. & Westmoreland.....	18,741	11,091	I. 7,650	68.9
West Penn. R. R.....	13,637	14,151	D. 514	3.2
Southwest Penn. R. R.....	113,480	141,490	D. 28,010	19.8
Allegheny Region, Pa. R. R.....	95,135	35,025	I. 60,110	280.4
Total coke.....	250,069	199,939	I. 50,130	25.4

The demand for coke is stimulating production. The Pittsburgh and Connellsville regions continue the chief sources of supply, but new fields are being gradually opened. The shipment above noted from the Belleville & Snow Shoe is the first from that region.

Anthracite coal tonnage of the Belvidere Division, Pennsylvania Railroad, for the two months ending Feb. 28, was as follows:

	1880.	1879.	Increase.	P. c.
South Ambler for shipment.....	60,829	44,927	15,902	35.2
Local distribution on N. J. lines.....	68,318	51,644	16,674	32.2
Company's use on N. J. lines.....	16,422	15,055	1,367	9.1

Total.....145,569 111,626 33,943 37.0

Of the total this year, 110,539 tons were from the Lehigh, and 40,980 tons from the Wyoming Region.

Actual tonnage passing over the Huntingdon & Broad Top road, for the two months ending Feb. 28, was:

	1880.	1879.	Increase.	P. c.
Broad Top coal.....	31,445	21,576	9,869	45.7
Cumberland coal.....	30,398	22,120	8,278	39.3

Total.....61,843 43,696 18,147 41.5

The distribution of Cumberland coal tonnage for the two months was as follows:

	1880.	1879.	Increase.	P. c.
Baltimore & Ohio R. R.....	232,004	114,774	117,230	102.2
Bedford Div., Pa. R. R.....	27,775	20,423	7,352	33.0
Ches. & Ohio Canal.....	2,583	2,583

Total.....262,362 135,197 127,165 94.1

Actual tonnage of anthracite passing over the Pennsylvania & New York road for the three months of its fiscal year, from Dec. 1 to Feb. 29, was: 1880, 168,951; 1879, 181,278; decrease, 12,327 tons, or 6.8 per cent. Receipts from Lehigh Valley road increased, but those from other lines fell off largely.

Emigrant Rates West.

A dispatch from Chicago, March 10, says: "The passenger agents of roads leading west from this city and St. Louis, to-day adopted arbitrary or local rates on emigrant business from New York and other sea-ports, which they will exact from the trunk lines. Their action will be submitted through Commissioner Fink to the trunk-line agents. A strict agreement to accept only tariff rates for emigrant business was also signed, and a penalty for violation of the agreement was fixed."

Grain Movement.

For the week ending Feb. 28 receipts and shipments of grain of all kinds at the eight reporting Northwestern markets and receipts at the seven Atlantic ports have been, in bushels, for the past seven years:

Year.	Northwestern— Receipts.	Shipments.	Atlantic Receipts.
1874.....	1,816,223	70,470	1,410,435
1875.....	1,621,938	474,689	1,273,274
1876.....	3,182,506	1,936,225	2,215,071
1877.....	2,555,959	1,315,110	2,375,036
1878.....	2,450,460	1,053,115	3,089,356
1879.....	3,300,002	1,727,475	4,389,067
1880.....	3,043,472	2,320,154	3,020,011

The receipts at Northwestern markets for the week this

year were not only larger than for any corresponding week of previous years, but larger than in any winter week until this year, when, however, they have been exceeded twice. The shipments of these markets are the largest since June last, and rail shipments have not been so large before since June last, when the roads were carrying for 10 or 15 cents a hundred from Chicago to New York. As this was the last week before the reduction of the rates and a reduction was quite generally expected, the increase in shipments is notable—they were more than twice as great as in the preceding week. The receipts at Atlantic ports were nearly 60 per cent. greater than in the preceding week, and have been exceeded but one week this winter since navigation closed. Up to the same date last winter they had been exceeded three times, with rates about half as great as this year.

Of the Northwestern receipts Chicago had 36.5 per cent., St. Louis 29.5, Toledo 11.7, Peoria 8.2, Milwaukee 7.3, Cleveland 5.1, and Detroit 1.7 per cent.

Of the Atlantic receipts Baltimore had 29.7 per cent., New York 27.8, Philadelphia 18.8, New Orleans 12.3, Boston 9.7, Portland 1.4, and Montreal 0.3 per cent. The receipts at New York are the largest for seven weeks, and nearly one fourth larger than in the week preceding, but the receipts of Baltimore are 127 per cent. greater than in the preceding week and the largest since October last; Philadelphia's receipts also are the largest since in October.

The movement continues to be chiefly corn, nearly 70 per cent. of the Northwestern receipts and nearly 75 per cent. of the Atlantic receipts being of that grain.

Exports of wheat and corn only (not much other grain is exported) from Atlantic ports for the four weeks in February were:

	Week ending— Feb. 28.	Feb. 21.	Feb. 14.	Feb. 7.
Wheat.....	882,551	1,332,277	954,050	990,322
Corn.....	1,542,375	1,073,908	1,478,011	1,181,755
Total.....	2,424,926	2,406,185	2,432,070	2,172,077

THE SCRAP HEAP.

Railroad Equipment Notes.

It is reported that contracts have been given out for new equipment for the Atlantic & Great Western road as follows: Grant Locomotive Works, Paterson, 20 consolidation engines; Rhode Island Locomotive Works, Providence, 10 consolidation engines; Gilbert Car Works, Buffalo, 200 box cars; Erie Car Works, 300 box cars; Detroit Car Works, 150 stock cars; Cleveland Bridge & Car Works, 150 stock cars; Bowers, Dure & Co., Wilmington, Del., 100 coal cars; Barney & Smith Manufacturing Co., Dayton, 300 coal cars and 10 passenger coaches.

The Barnum & Richardson Manufacturing Co., in Chicago, are about to move to the new shops on the South Branch, which were built seven years ago, but have not been used up to the present time. The change is made necessary by press of business.

The shops of the Georgia Railroad at Augusta, Ga., have orders to build four new passenger coaches and 200 box cars for the road.

The Wason Manufacturing Co., at Brightwood (Springfield), Mass., is building five palace cars for the Hoosac Tunnel Line and four passenger cars for the New Haven & Northampton. The freight shop is turning out six cars a day. A lot of hand cars were recently shipped to Brazil.

The Allen Paper Car Wheel Co., which now controls all the paper-wheel interests in this country, has enlarged the works at Hudson, N. Y., to a capacity of 500 wheels a month, and has made arrangements to build works in Chicago with a capacity of 1,000 wheels a month.

The Gilbert Car Works, in Buffalo, N. Y., have just finished 200 box cars for the Wabash, St. Louis & Pacific, and are at work on 150 gondolas for the Buffalo & Southwestern, and 200 box cars for the Atlantic & Great Western. The works can turn out six cars a day.

The Atlantic & Great Western shops, in Kent, O., are building 50 coal cars to carry 20 tons each.

The Boston & Providence Railroad has received from the Wason Manufacturing Company, of Springfield, an elegant train of new passenger cars for the Providence line, which will be resumed in April. A first-class passenger locomotive has also been received from the Rhode Island Locomotive Works, named T. P. I. Goddard, one of the directors of the Boston & Providence Railroad.—*Boston Traveller*.

The Western Railroad has purchased five new cars at a cost of \$15,000. On the main line a train will leave Montgomery for Atlanta each morning composed entirely of new cars. They are models of beauty and comfort, having all the latest improvements. They have the Miller platform and bumper. One of them arrived in the city last night. It is fifty-five feet in length. The middle apartment is for the mail agent, Mr. F. G. Wilhelm, who seems delighted in his new quarters. The balance of the car is for passengers. These cars are painted what is known as the Pennsylvania red, and are without doubt the handsomest that have ever been on the Western road.—*Columbia (Ga.) Enquirer-Sun*.

Iron and Manufacturing Notes.

The New Albany (Ind.) Rolling Mill is rolling iron rails for the Jeffersonville, Madison & Indianapolis road.

The Shawnee Rolling Mill Co. this week started up its rolling mill at Columbia, Pa. It is running for the present on muck-bar.

There are now 11 furnaces in blast in the Hocking Valley Region in Ohio, and three more will soon go into blast. Several of the old furnaces in the region are being repaired and made ready to start.

A new organization, known as the Cambria Iron Co., is preparing to start up the old Cambria Furnace, in Jackson County, O. It will use charcoal for the present.

The Toledo Rolling Mill & Blast Furnace Co. has been organized at Toledo, O., with \$300,000 capital stock.

The Akron Steam Forge Co., at Akron, O., has its works busy, chiefly on car axles.

The Forest City Steel Co., at Cleveland, O., is making arrangements to build a new and larger mill.

The Blair Iron & Coal Co. has started up its second furnace at Hollidaysburg, Pa., which had been stopped for repairs.

Clingan & Son are repairing their Hopewell Furnace, in Chester County, Pa., and are making charcoal, in order to start it up next month.

Springfield Furnace, at Royer, Blair County, Pa., has gone out of blast, in order to have repairs and improvements made.

The Ottawa Iron & Steel Manufacturing Co., at Ottawa, Canada, is preparing to build a blast furnace, a car-wheel foundry and a steam forge.

Bridge Notes.

The Commissioner of Public Works of the province of Quebec will receive proposals until April 1 for the iron superstructure of the Chaudiere railroad bridge, which is to consist of ten spans of 150 ft. each, one of 135 ft., one of 160 ft., and one of 25 ft. Specifications and all other information can be had of P. A. Peterson, Chief Engineer, No. 16 St. James street, Montreal.

The Detroit Bridge & Iron Works have in hand for the Illinois Central a draw span of 203 ft. over the Chicago River, two deck-spans of 141 ft. each, two of 160 ft. each, and four of 65 ft. each; for the Michigan Central, two spans of 165 ft. each, one of 100 ft., and a bridge at Niles, 570 ft. long, in five spans; for the Wabash, St. Louis & Pacific, a draw-span 300 ft. long, and two fixed spans of 145 ft. each; for the Detroit & Bay City, one span of 150 ft., and one of 120 ft.; several smaller bridges, and the approach to the new Plattsmouth bridge over the Missouri.

On the Roof.

People never can agree about ventilation. An exchange tells how an old gentleman entered a railroad car, and, without consulting any of the other passengers, at once let down both windows. Old gentleman, looking around complacently: "A cold morning this, but I must say I like air!" Fellow-passenger, gruffly: "It seems to me, sir, that, under the circumstances, it might suit you better, and would certainly be more comfortable for us, if you get out and sit on the roof!"

And now, as spring approaches, the County Clerk's office, in Brooklyn, is crowded with people, all bent on filing notices of organization, and maps of new railroads to Coney Island. The market-gardeners back of Brooklyn say that if all of the projected railroads are built, there won't be room left to plant a row of peas between them.

"Ada," said the fat passenger, thoughtfully, as the brakeman called out the name of that station, "Ada: what is her other name, brakeman?"

The brakeman for a moment held his peace with a scornful air, and then said:

"Ohio, sir; Ada, Ohio."

And then the party climbed out very meekly.

"I expect," said the sad passenger, "he has had that played on him a great many times. I thought of saying that myself, and then it seemed to me that it had a decided family resemblance to the Morrow, Ohio, joke, and I shut it off."

"I like that name," I said, "because it is like Bob; it spells the same thing both ways."

"Then I suppose you think," said the tall, thin passenger, "that Adam—," and he paused with an air of timidity.

"Go on," I said, and "Oh, yes; go on," shouted the others encouragingly; and the tall thin passenger resumed:

"That Adam Ada mistake when he 'ad 'em add m to his name!"

And then we all wailed and went into the hotel.—*Burlington Hawkeye*.

The Danforth Locomotive Works.

Early on the morning of March 6, a fire broke out in the oil room of the Danforth Locomotive and Machine Works, in Paterson, N. J. The buildings being old and the floors saturated with oil, the fire spread very rapidly, and owing to delay in sounding the alarm, it was some time before the fire-engines arrived, so that the fire had extended so far that it was impossible to save that part of the works where it started. A new building, used as a paint shop, tender shop, and for storing patterns, the foundry and boiler shop, and the shops used for making cotton and silk machinery, were all saved, with very little damage. The part of the works destroyed, consisted of the erecting shop, the locomotive machine shops, and the blacksmith shop, all very old buildings, and valuable chiefly for the machinery and material they contained. In the erecting shop were two locomotives ready for shipment, and three other nearly finished. The loss cannot be exactly ascertained until the extent of the damage done to machinery and tools is determined; it is estimated at from \$175,000 to \$200,000, upon which there is \$90,000 insurance. It is thought that the fire was purposely started, especially as it was found afterward that the fire-alarm wires had been tampered with.

The company has already made arrangements to put up new, and much larger and better buildings than those destroyed. A large force will be employed, and the work will be driven as fast as possible, so that there may be little delay in resuming operations. The capacity of the works will be increased, and they will be much improved by the substitution of new buildings for those destroyed, which had been standing for many years.

A Hard Head.

As the Mobile & Girard freight train that leaves Columbus at 8:30 a. m., was about three miles from this place, the engineer discovered a negro man lying asleep on the track; he blew on brakes, reversed his engine, and endeavored by every possible means to stop the train, but was unable to do so. The pilot of the engine a ruck the negro and knocked him clear of the track and he lit on his head, rolled down the embankment, but got up and walked off apparently unhurt.—*Columbus (Ga.) Enquirer-Sun*, March 7.

OLD AND NEW ROADS.

Albany & Lebanon.—This company has been organized to build a railroad from Albany, Oregon, eastward to Lebanon, in Lion County, about 25 miles. The road is to be a branch of the Oregon & California, and the incorporators are J. N. Dolph, J. Brandt, Jr., and Paul Schultze, all officers of that company.

Atchison, Topeka & Santa Fe.—At Washington, March 8, the Court of Claims rendered a decision in the case of this company against the United States, in which the claimant seeks to recover compensation for transportation services rendered by it to the United States in 1875 and 1876. These services, at the claimant's ordinary tariff rates charged the public, would be worth \$170,843.35. The Court finds, however, that the claimant is entitled to recover for transportation done for the United States over its land-grant road, from March 31, 1875, to Dec. 1, 1876, only 50 per cent. of the ordinary tariff rates charged the public, that is, \$85,421.76, which, less \$79,748.44 already paid by the government on account, leaves still due \$5,673.32. The opinion of the Court as to the percentage of its claim which the road is entitled to recover is decisive of several other pending cases brought by land-grant railroads, involving between \$500,000 and \$1,000,000.

Atlantic, Mississippi & Ohio.—Holders of over \$1,500,000 consolidated bonds have given notice to the London Committee that in holding that committee's certificates for bonds deposited they do not wish to be understood as acquiescing in the scheme proposed by the Committee, or in its proceedings subsequent to the deposit of the bonds. It is understood that they give a general support to the Dutch Committee.

Augusta & Knoxville.—The Augusta & Greenwood Company has been consolidated with this company, putting the projected line from Augusta, Ga., to Knoxville, Tenn., in the hands of one corporation. The line is nearly all graded from Augusta to Greenwood, S. C., and Augusta has voted to subscribe \$50,000 to build a bridge over the Savannah River.

Baltimore & Drum Point.—Three bills are now before the Maryland Legislature, one to authorize the Board of Public Works to sell the state's interest in the Annapolis & Elkridge Railroad to the Baltimore & Drum Point Railroad, and authorizing the Drum Point to purchase the

private interests in the said road; another extending the time for the completion of the Drum Point road to 1885, and the third to merge the Annapolis & Elkridge and the Baltimore & Drum Point roads into one. The officers of the Drum Point road say they are prepared to pay the cash for the Annapolis & Elkridge Railroad and complete their road without delay.

Baltimore & Ohio.—The new steam ferry-boat "Canton" was launched from the Harlan & Hollingsworth yard at Wilmington, Del., March 6. The boat and its future work are thus described by the *Baltimore Gazette* of March 8: "As particular attention has been given to the speed it will be requisite for the barge to attain, she will probably be the fastest ferry-boat ever built. She is 324 ft. long, 36 ft. 8 in. beam and 13 ft. 3 in. depth of hold. The hull, built of iron, is divided into five compartments by four water-tight bulkheads. There is a steering apparatus at either end. She is provided with two independent horizontal condensing engines located over the gunwales. The cylinders of these engines are 33 inches in diameter and the piston stroke is nine feet. The engines are supplied by two independent direct tubular boilers, each 21 feet long and eight feet in diameter. Each boiler has 1,300 square feet of heating surface and will support a pressure of 60 pounds of steam. The wheels are 25 ft. 6 in. in diameter, each blade having a length of eight feet. There will be five tracks on the main deck, which will be sufficient to accommodate an unusually long train of cars. The pilot-houses, one at either end, will be built on arches over the tracks. The wood work of the vessel will be solid and substantial and it is expected she will be entirely finished for her trip around to Baltimore by the 9th of April.

"On the Locust Point side of the river the Baltimore & Ohio Railroad is building an immense pier or slip, from which to run cars from their main tracks to the new ferry. The connection will be made at Bailey's Station. The slip of the Baltimore & Ohio Company is located between elevator B and piers 31 and 32. Directly opposite, at the foot of Chesapeake street, the Philadelphia, Wilmington & Baltimore Railroad is constructing a like slip on their large water-front property at Canton. Connection will then be made directly with their main stem at Bayview Junction. The saving of time that this new arrangement will effect is calculated to be not less than 25 minutes and in the competition with other lines from the West this will be an incalculable advantage to the Baltimore & Ohio Railroad. The reduction of expenses will also form an excellent bid for through freight and passenger travel that will make the investment without doubt a paying one. The tracks of the Baltimore & Ohio Company on Pratt street will not be removed, but they will only be used for local trains and for the distribution of freight to merchants along the wharves. This is a great desideratum in the benefits of the new work, for the blocking up of Pratt street frequently during the day is a source of great inconvenience to merchants, owing to the stoppage of traffic."

Blue Ridge.—It is said that arrangements have been completed for the extension of this road from Walhalla, S. C., to the state line; also that the line in Georgia is provided for. This leaves the North Carolina section still to be arranged for. A large amount of very costly work has been done on the unfinished sections in South Carolina and Georgia, which is probably not in very good condition now.

Boston & Albany and New York Central Agreement.—In Boston, March 8, the Railroad Commission submitted to the Massachusetts Legislature a memorandum of agreement between the Boston & Albany and the New York Central & Hudson River Companies. The contract has not yet been approved by the Boston & Albany directors, but is to be acted on at the next meeting of the Board. The agreement is signed by Presidents Lincoln and Vanderbilt, and is as follows:

"The agreement entered into this third day of February, 1880, between the New York Central & Hudson River Railroad Company, a corporation duly established under the laws of the state of New York, and the Boston & Albany Railroad, a corporation duly established under the laws of the state of Massachusetts, with roads connected with each other, and which own and control a line of railway between Boston and Lake Erie, provides that

"Whereas, both of the contracting parties recognize the fact that the public interest, and that of the railways, will be better provided for by making one line over which the traffic will move in large volume with the least possible cost, than to divide the traffic passing from one line to the other, and increase the expenses in consequence of the reduced volume:

"It is, therefore, agreed that each of the contracting parties shall, for the purpose of interchange of traffic, consider the road of the other as part of its main line, and for business passing between New England and the West, each shall have the same rights and privileges as if the two companies were actually consolidated, except that the property and earnings of each company shall be independent and distinct. It is the intention of this contract to form a strong alliance for the conduct of business between New England and the West and interior New York in order that by the advantages and economies of such connection, both companies may attract and secure business, and promote their mutual interests by offering to patrons the best rates and facilities, and that the public may be better served and the affairs of the railways more economically administered.

"This contract should continue in force for the term of five years from the date hereof; it may then be terminated by either party giving one year's notice of its desire to withdraw; such notice must, however, be given prior to the first day of January."

Bradford, Bordell & Kinsua.—This company has been organized to build a railroad from Bradford, Pa., south-east through the valley of Kendall Creek to Bordell, a distance of 15 miles. The line is all in McKean County. The gauge is 3 ft., and the capital stock is fixed at \$100,000. The road is intended to develop a new oil district. Work is to be begun as soon as the right of way can be secured.

Brattleboro & White Hall.—This company had arranged for the use of a part of the right of way of the Vermont Valley Company in Brattleboro, Vt., but the Valley Company now claims that the agreement does not hold good under the lease of the new road to the New London Northern, and has taken possession of the line graded on its property for the new road. The courts will probably have to decide the matter, but in the mean time no connection with the New London road can be made.

Buckhannon & Weston.—This company has been organized to build a railroad from Weston, W. Va., terminus of the Clarksburg, Weston & Glenville road, east to Buckhannon, about 18 miles.

Burlington, Cedar Rapids & Northern.—A dispatch from Cedar Rapids, Ia., says: "It is announced on authority of an officer of this company that there was to be no division of that road. The majority of the stock has been absorbed by the Rock Island and Chicago, Burlington & Quincy companies, which have formed a friendly coalition, and the road will be run as a purely business venture. The Northwestern Company has nothing to do with it."

Chesapeake & Ohio.—This company has called in for redemption and is now paying off \$380,000 of the obligations known as purchase money funding bonds, given for Virginia Central and other prior lien bonds at the time of the foreclosure sale. These bonds are payable at various periods, from 1880 to 1887, the company having the option to redeem at any time after Jan. 1, 1880.

Chicago & Iowa.—The injunction to prevent the annual meeting and election of this company was granted at suit of the town of Aurora, Ill., which claims that the stock it holds (\$100,000) is all the stock that the company ever issued legally, and that all other stock was fraudulently issued. The object of the suit is said to be to prevent the transfer of the road to Jay Gould. Aurora, however, is willing and anxious to sell the stock.

Chicago, Rockford & Northern.—A suit has been begun to foreclose the second mortgage for \$150,000, on which no interest has been paid since 1876. The road extends from Rochelle, Ill., to Rockford, 16 miles, and is worked by the Chicago & Iowa. There is also a first mortgage for \$250,000.

Cincinnati Southern.—This road is now fully opened for business between Cincinnati and Chattanooga. The first through passenger trains left Cincinnati March 8, and Chattanooga on the following morning, and freight trains have been running for over two weeks. The formal opening of the road is to take place next week.

Clarksburg, Weston & Glenville.—Arrangements are being made to extend this road from Weston, W. Va., west by south to Glenville, 28 miles. There is also talk of a branch from Weston south by west to Sutton, about 30 miles.

Columbus, Scioto & Hocking Valley.—This company, which is closely connected with the Scioto Valley Company, has located its line and begun construction from a point on the Scioto Valley about half way between Columbus and Circleville east by south to and down the Hocking Valley, to important coal mines in Hocking County. For several miles of the eastern part of the line it is in the same ravine with the line of the Columbus & Hocking Valley, with which it will compete in the carrying of coal, etc., to Columbus.

Danville, Olney & Ohio River.—Work has been resumed on the extension of this road from its present terminus at Kansas, Ill., southward to Olney, 70 miles, and its completion is promised this year.

Dayton & Southeastern.—Auditor Sprague reports the Receiver's income account for January as follows:

Surplus from previous year	\$46,457.07
Earnings for January	15,630.71
Car mileage received	11.30
Total	\$62,098.08
Working expenses	\$10,042.23
Miscellaneous expenses	2,174.11
Car mileage paid	557.39
Discount	424.31
	14,098.04
Balance to general account	\$48,000.04

The Receiver's construction account shows that there has been expended on the extension from Musselman to Wells-ton \$292,452.75 for construction and \$34,715 for equipment, \$327,167.75 in all. Of this amount \$155,730.84 was procured from first-mortgage bonds; \$100,000 from Receiver's certificates; \$33,409.80 from bills payable given for equipment and iron, and \$38,027.11 is credited to general account.

Delaware, Lackawanna & Western.—The City Council of Buffalo, N. Y., has finally granted the right of way for a spur from the New York Central track to the company's new coal dock in Buffalo harbor. The company had previously announced its intention of giving up the shipment of coal from Buffalo, and it is not known whether it will take advantage of the permission now given to reach its dock.

Detroit, Butler & St. Louis.—The city of Detroit was to have raised \$200,000 in aid of this projected road from Detroit to Butler, the terminus of the Bel River Branch of the Wabash. Very slow progress has been made, however, only \$125,000 having been secured at latest dates, and the committee had come down to \$50 subscriptions.

Detroit, Hillsdale & Southwestern.—The new management of this road and the Toledo & Ann Arbor have agreed upon working arrangements with the Ft. Wayne & Jackson road, and an interchange of freight and passenger business on a *pro rata* basis. This company, it is said, is arranging for the extension of its line from Ypsilanti to St. Louis.

East St. Louis Terminal.—This company has been organized to build a railroad to connect all the lines entering East St. Louis with the bridge tracks, and with each other. The incorporators are Lewis B. Jones, J. M. Thompson, John Doyle, S. M. Davidson and E. W. Woodward.

Hannibal & St. Joseph.—A late report is that the stock of this company is being bought up in the interest of the Atchison, Topeka & Santa Fe, and that it is all going to Boston holders.

Illinois Central.—The Chatsworth Division with its new extensions, the Kankakee & Western and the Clinton, Bloomington & Northwestern roads, will hereafter be operated as the Middle Division.

General Passenger Agent Johnson has issued the following circular to station agents and baggage men in regard to excess baggage charges:

"On and after March 1, 1880, this company will allow to those purchasing excess-baggage mileage-tickets 250 pounds free, in place of 150 pounds as heretofore. It is proposed to get up, and place on sale as soon as they can be printed, 500-mile baggage-tickets of the same style and description as the 1,000-mile tickets now in use. Until the receipt of these 500-mile tickets, you will, in making sales of the 1,000-mile tickets, change the 150 pounds, wherever it occurs, to 250 pounds. Upon receipt of 500-mile tickets by you the 1,000-mile tickets will be called in and corrected. In both the 500 and 1,000-mile tickets as finally received by you, the space now occupied by the 150 pounds will be left blank, and you will, unless otherwise advised, insert 250 pounds in ink. Under no consideration will you change the number of pounds, but in each and every case allow and insert 250 pounds as the amount entitled to free transportation.

"On and after this date, the rates to be charged on excess-baggage mileage tickets will be as follows: On 500-mile tickets, 1½ cents per pound; on 1,000-mile tickets, 3½ cents per pound. The same general rules now in force in connection with the 1,000-mile ticket will apply to the 500-mile ticket. The 250 pounds free will only be allowed to those purchasing excess-baggage tickets. All others will be entitled to 150 pounds only."

Indiana & Chicago.—This company has filed articles of incorporation for a line from Attica, Ind., northward to

Chicago, about 120 miles. The proposed line is parallel to and a few miles east of the Chicago & Eastern Illinois.

Indianapolis & Evansville.—This company has been organized to acquire the Evansville, Washington & Worthington road, now under construction, and to extend it from Worthington to Indianapolis, making a line from Evansville, Ind., to Indianapolis. It will be about 150 miles long, and about half of it will be parallel to the Indianapolis & Vincennes.

Indianapolis, Cincinnati & LaFayette.—The purchasers of this road at the recent foreclosure sale met in Indianapolis, March 6, and organized the Cincinnati, Indianapolis, St. Louis & Chicago Company, in accordance with the plan of reorganization previously adopted. It is understood that the road will be transferred to the new company March 16.

The company will control and work the Cincinnati, LaFayette & Chicago road, extending its line to Kankakee, Ill. It is also reported that an extension will be built from Kankakee north to a point near New Lenox in Will County, where connection can be made with either the Rock Island or the new Chicago & Strawn road. This is only a report as yet.

It is also said that there is a movement among the old stockholders to contest the validity of the foreclosure and have it set aside, if possible. There has been a good deal of talk about it, but the movement does not appear to take shape.

James River & Kanawha Canal.—This company has closed a contract for the sale of all its works and franchises to the Richmond & Allegheny Railroad Company. The terms of the sale have not been received as yet. The new company intends to build a railroad on the line of the canal from Richmond to Lynchburg and Buchanan, about 200 miles, and also to build the Buchanan & Clifton Forge road, 40 miles, to the Chesapeake & Ohio, at Clifton Forge.

A sale of the canal to the same company was made once before, but not completed, the purchasers failing to make payments as required. The company, however, has since been reorganized.

Kansas City & Southern.—This is the name assumed by the company which has bought the road-bed, right of way, etc., of the old Kansas City, Memphis & Mobile road. The company professes to be independent of all others. Work is to be pushed on the grading, and arrangements have been made to buy rails.

Lookout Mountain.—This company has closed a contract with J. C. Stanton & Co., of Chattanooga, Tenn., for the building of the road from Chattanooga to Rome, Ga., about 60 miles, the work to be done in one year. The contract price is \$23,000 per mile, \$8,000 payable in stock and \$15,000 in first-mortgage bonds. The final location is yet to be made, but the line will be substantially that of a survey made in 1872. Mr. Stanton is well known as the builder of the Alabama & Chattanooga road.

Long Island.—The Court has authorized Receiver Sharpe to contract with Michael Laffan to run a steamboat line between Greenport, Narragansett Pier, Block Island and Newport. The plan is to run express trains between Hunter's Point and Greenport, connecting with fast steamboats for the summer resorts mentioned, and it is expected that a considerable traffic can be secured for the line.

Louisville & Nashville.—The following statement is furnished by officers of this company as a general answer to numerous inquiries made of them:

1. The Louisville & Nashville have purchased, as is known, a controlling interest in the Nashville & Chattanooga. The latter will not be consolidated with the Louisville & Nashville, but will be managed as are other independent lines owned by the Louisville & Nashville. The advantage to the Louisville & Nashville of owning the Chattanooga and other lines will be a stoppage of ruinous competition, and will cause a reduction in operating expenses.

2. The Louisville & Nashville have recently acquired control of the Mobile & Montgomery Railroad. For this bargain they have received an offer which would give them a net profit of \$1,000,000.

3. The Louisville & Nashville have also secured control of the Pensacola and the Mobile & New Orleans railroads, by exchange of bonds. The purchase in each case was at prices at which these two roads are at least no burden to the Louisville & Nashville.

4. The present net earnings of the Louisville & Nashville are now equal to 16 per cent. on the present capital of \$9,000,000, without taking into account the new acquisitions.

5. The main line of the Louisville & Nashville is now laid with steel rails, and about 35 per cent. of the branches are steel rails, all being rock-ballasted.

6. The Louisville & Nashville system of roads is now complete, and no consolidation or amalgamation with any company is contemplated, nor are any acquisitions contemplated.

Marquette, Houghton & Ontonagon.—This company is making many improvements on its road this winter, and expects to have it in good condition for the very large traffic looked for next summer. The dock at L'Anse has been enlarged to nearly double its former capacity. The grading is nearly finished for a branch, about four miles long, to the Taylor Mine, and tracklaying will soon be begun.

Mexican Central.—This company has been organized in Boston to build a railroad from a point in Chihuahua, Mexico, on the Atchison, Topeka & Santa Fe's proposed line to Guaymas, through Durango, Zacatecas, Aguas Calientes, Lagos, Leon, Guanajuato, Salamanca, Celaya and Queretaro to the city of Mexico; also branches, as may be found desirable or practicable, from the main line to Salvatierra, Dolores, Hidalgo, Guadalupe, San Luis Potosi and other towns. The organization is in the interest of the Atchison, Topeka & Santa Fe. The line was conceded to a Mexican company during the Lerdo administration. From the city of Mexico for some 250 miles northwest, the country is thickly peopled with many considerable cities, and a railroad here ought to pay, if anywhere in Mexico. Further north the country is very thinly peopled.

Milwaukee & Northern.—In the United States Circuit Court in Milwaukee, March 8, a final decree of foreclosure and sale was entered against this road. The decree covers the whole line from Milwaukee to Green Bay, 113 miles, and from Hillbert to Menasha, 16 miles, 129 miles in all. The funded debt by the last report consisted of \$2,134,000 first-mortgage bonds, and the amount found due to bondholders by the decree is \$2,662,742. The road has been worked for several years by the Wisconsin Central under lease.

Minnesota & Dakota Northern.—This company has been organized to build a railroad from Barnesville, Minn., on the St. Paul, Minneapolis & Manitoba, northwest to Fargo, Dak., on the Northern Pacific and beyond that place to some point not yet determined on. It would cross from southeast to northwest the Red River Valley where it is crossed from east to west by the Northern Pacific, and compete with that road for local traffic.

Missouri Pacific.—This company has offered to com-

promise the claim of the city of St. Louis against it, which now amounts, with interest, to \$916,000, by paying one-half cash. The offer is under consideration. Mr. N. A. Cowdrey, of New York, representing the holders of old Pacific of Missouri stock has offered the city \$500,000 for the claim. He said that if the old stockholders succeed in setting aside the foreclosure and recovering possession of the road, they will pay the claim in full.

New Jersey Midland.—The New York Times of March 11 says:

"Gen. Thomas D. Hoxsey, of Paterson, N. J., yesterday filed in the Court of Chancery a bill to compel the New Jersey Midland Railway Company, or the new owners of that corporation, to issue to the stockholders of the New Jersey Western Railway Company 7 per cent. stock, guaranteed, of the Midland road in exchange for the stock of the former, or, failing that, to relinquish to the New Jersey Western Company that portion of the Midland lying between Hawthorne and Bloomingdale, a distance of about 10 miles, which was located and partly graded by the former company in 1868, 1869 and 1870. This is asked for on the ground that the New Jersey Midland agreed to issue such stock in 1870, in consideration of the New Jersey Western stockholders consenting to a consolidation of the roads, which afterward took place, but that the promised exchange of stock never was made, because the Midland would not, or could not, carry out the bargain. Before the Midland was recently sold all the interests concerned were satisfied except that of the stockholders, who have just filed this bill for relief, and on the day of the sale Gen. Hoxsey gave notice of his intention to bring this action in equity.

"A circular to holders of securities of the old New Jersey Midland Railroad will be issued to-day containing the following information respecting the present standing of the different classes of obligations: First mortgage bonds (committee's certificates) are to receive new first mortgage bonds for the face of the old bonds, and preferred stock for back interest, the preferred stock to carry with it the voting power of the new company; second mortgage bonds (committee's certificates) are to receive for face and back interest new income bonds, which shall constitute a second mortgage on the property; third mortgage bonds (consolidated) are to receive for face and back interest, new income bonds of the same series as those allotted to the second mortgage bonds; the third mortgage bonds are, however, subject to an assessment of 15 per cent. on face and interest. Notes and open accounts, representing the floating debt, to be subject to the same terms as the third mortgage bonds. No definite conclusion has yet been arrived at as to the old stock. This would make the obligations of the reorganized company as follows: New first mortgage bonds, \$3,000,000; new second mortgage bonds, \$4,850,000; preferred stock, \$1,050,000. The old common stock amounts to \$1,423,745. From the assessments the company will have, in cash, \$423,000. It is asserted that the committee of the first and second mortgage bondholders stands eight in favor to four against the above plan, and that the road earned \$180,000 net profit last year, which was all applied to improvements, so that now very little further outlay, except for rolling stock, will be needed."

New Orleans & Mobile.—A dispatch from New Orleans, March 6, says: "Judge Woods, of the United States Circuit Court, to-day rendered a decree declaring Edwin D. Morgan and James A. Raynor the lawful trustees of the New Orleans & Mobile Railroad, and ordering the sale of the road and the distribution of the proceeds among the bondholders. This will probably give effect to the sale of the road to the Louisville & Nashville Railroad Company, reported a short time ago."

New York & Long Branch Extension.—This company has been organized to build an extension of the New Jersey Central's Long Branch line from Sea Girt, N. J., to Point Pleasant, 3½ miles. The capital stock is \$50,000. Work is to be begun at once.

New York, Housatonic & Northern.—In the matter of the disputed foreclosure sale of this road, the Court decides that the Trustees must bid as individuals and not as trustees, and must pay 10 per cent. in cash. If they do not comply the Referee must sell the road to the parties who bid \$130,500 for it at the sale.

New York, Lake Erie & Western.—This company's report for the four months of its fiscal year from Oct. 1 to Jan. 31 is as follows:

	1879-80.	1878-79.	Inc. or Dec.	P. c.
Gross earnings	\$5,924,158.52	\$5,207,822.17	\$716,336.35	13.8
Expenses	3,950,054.51	3,579,415.72	370,638.79	10.4
Net earnings	\$1,973,504.01	\$1,628,406.45	\$345,097.56	21.2
Per ct. of exps.	66.99	68.73	D.	2.04

The company expected to begin this week the work of taking up the third or 6-ft. gauge rail on the Buffalo Division, leaving that division of standard gauge only. The broad gauge will remain for the present on the main line east of Hornellsville and on the Western Division, from Hornellsville to Dunkirk.

Work is now progressing well on the new docks and the large grain elevator in Jersey City. The dock warehouses there are also well advanced.

Norfolk & Great Western.—This projected line from Norfolk, Va., to Louisville, Ky., is to be revived, and application has been made for a charter in Kentucky from the Virginia line by Richmond and Lexington on Nicholasville to Louisville. Boston capitalists are said to be interested.

Northern New York Pool.—It is understood that by the new agreement between the Rome, Watertown & Ogdensburg and the Utica & Black River companies, the Rome Company is to have all the business from the westward to Northern New York, while the Utica road is to have the business to points along the St. Lawrence and the Eastern summer travel to that river and the Thousand Islands. Rates are to be settled by joint agreement and maintained by both companies. Freight rates to Watertown, Ogdensburg and other competing points have already been raised.

Northwestern Ohio.—The people of Bucyrus, O., have offered the Pennsylvania Company, lessee of this road, \$180,000 and 20 acres of land for yard and shop purposes, provided the line of the road is changed so that it will connect with the Pittsburgh, Ft. Wayne & Chicago at Bucyrus. The connection is now made at Toledo Junction, 19 miles east of that place. The change will require the building of a new line from Tiffin to Bucyrus and the abandonment of a large part of the 37 miles from Tiffin to Toledo Junction.

Pacific Mail Steamship Co.—San Francisco dispatches confirm the report that this company's new agreement with the Central and Union Pacific includes the transfer of its China line to the railroad companies, to be made at some future time—when is not yet settled.

In the United States Senate, March 9, a resolution was adopted instructing the Judiciary Committee to inquire into the contract with the railroad companies and report whether such a contract has been made, and what legislation is neces-

sary to prevent the execution of the same and protect the public interest.

Pennsylvania.—At the annual meeting in Philadelphia, March 8, some discussion was caused by the renewal of the charges made last year in relation to the purchase of the Roper tract of coal lands, now accompanied by charges that some of the directors had received exorbitant compensation for acting as trustees. The communication containing these charges also referred to the late President Thomson and the lease of the Ft. Wayne road. The charges were denied.

A resolution that all money expended for real estate and permanent improvements be capitalized, and the money, with that received for the Pittsburgh riot damages (\$2,647,000 in all), be used to pay a dividend, was referred to the board of directors. This caused some discussion as to the policy of using net income for improvements.

A resolution was also presented providing that a committee of five stockholders be appointed to enquire into the question of the elevated road from West Philadelphia to the proposed new Filbert street station and its probable cost, and report to the stockholders. After discussion this was laid on the table.

The usual committee to nominate directors was appointed.

Pittsburgh & Western.—The track of this road is now laid to Wurttemberg, Pa., 12 miles west by north from the 1st terminus at Zelienople, and 47 miles from the Pittsburgh terminus. Trains will run through in a few days.

A new depot is being built at River avenue, Allegheny, the terminus of the road. New repair shops are also being built at Zelienople, which will be large enough to do all the work of the road.

Richmond & Allegheny.—This company, which has bought the James River & Kanawha Canal, advertises for bids for four bridges over the James River, on the line between Buchanan, Va., and Clifton Forge, the four having 10 spans in all, varying from 125 to 162 feet. Also for two bridges of 75 feet each over minor streams. All are through bridges, with masonry piers from 25 to 40 feet high. Plans for both wooden and iron bridges will be considered. Bids may be sent to H. C. Parsons, Vice-President, at Richmond, Va., until April 1; further information may be had of H. D. Whitcomb, Consulting Engineer, in Richmond.

St. Paul & Duluth.—The grading of the new Wyoming Branch of this road is now about completed from Wyoming, Minn., to Centre City. The line is located from Wyoming to Centre City, along Lawrence Creek to the St. Croix River, at Franconia, where it crosses into Wisconsin and follows up the river three miles to Osceola, which is to be the terminus.

St. Paul, Chicago & Omaha.—It is officially announced that the terms of consolidation by which this company is formed have been finally agreed on. The new company will issue one share of stock for each share of the present St. Paul & Sioux City stock; 1½ shares for each share of Chicago, St. Paul & Minneapolis stock, and an equal amount of common and preferred stock for North Wisconsin stock. The bonded debt will be \$11,500 per mile.

Salem & Silverton.—This company has been organized to build a railroad from Salem, Oregon, east by north to Silverton, in Marion County, a distance of about 20 miles. The incorporators are all connected with the Oregon & California Company, of whose road the new line will be a branch.

Southern Coast.—An attempt is to be made to build this road, which was partly graded several years ago, and subscriptions in land and money are asked for along the line. The route is from Columbia, Tex., northwest to Wharton, 40 miles, with a branch of about the same length to Brazoria and Matagorda.

Southern Pacific.—This company offers simultaneously in New York, Boston, London, Amsterdam, Frankfurt-am-Main and Berlin, \$10,000,000 of its 6 per cent. first mortgage bonds. They are offered at 97½, and the subscription list is open for two days only, March 11 and 12. The total issue authorized is \$46,000,000, of which \$19,520,000 have already been sold. The bonds are a first lien on the whole line in California, which now consists of the Northern Division, from San Francisco to Soledad, 143 miles, with branch from Camadero to Tres Pinos, 18 miles, and the Southern Division from Huron to Yuma, 529 miles, with branch from Los Angeles to Wilmington, 22 miles, making 712 miles of finished road. To this is to be added hereafter lines from Soledad to Poso Junction, 167 miles, and from Mohave Junction to the Colorado River, 278 miles. The 51 miles of the Southern Division are leased to the Central Pacific at \$3,000 per mile per year.

Strawberry Hill & Nantasket Beach.—This company has filed articles of incorporation for a railroad from Nantasket Beach, Mass., by Strawberry Hill to Point Alderton in the town of Hull.

Telegraph War.—The war of legal injunction, suits and cross-bills has continued with varying success. The Western Union has recovered possession of the wires over the Union and Kansas Pacific roads under temporary injunctions. Proceedings have been taken to transfer all the pending suits to the United States Courts.

Texas & Pacific.—This company makes the following statement for the nine months of its fiscal year from June 1 to Feb. 29:

Gross earnings	\$2,085,733.40
Expenses (48 per cent.)	998,283.66

Net earnings.....\$1,087,449.74

The net earnings show an increase of \$402,158.73, or 50.7 per cent., over the same period in the preceding year.

Union Pacific.—Track has been laid on a new branch line leaving the Omaha & Republican Valley road at Valparaiso (38 miles from the junction of that branch with the Union Pacific main line), and running southward to Lincoln, Neb., 22 miles. By this branch the distance from Omaha to Lincoln is 95 miles. The line is to be extended south to Beatrice, 36 miles beyond Lincoln, and 58 miles from Valparaiso. It is everywhere quite near to the Chicago, Burlington & Quincy's lines.

Wabash, St. Louis & Pacific.—It is stated that this company has concluded an agreement for interchange of traffic with the Pennsylvania Company at Toledo. The agreement is not considered as having any special significance, being merely a settlement of terms on which traffic can be exchanged when desired.

Track is reported all laid on the Chicago & Strawn road, which forms this company's line to Chicago. The road is about 95 miles long, leaving the Chicago & Paducah at Strawn, and running northeast to Auburn Junction on the Chicago & Western Indiana, about 7 miles from the Chicago terminus. This completes the new line from Chicago to St. Louis, which is made up of the Wabash line from St. Louis to Bement, 134 miles; the Chicago & Paducah from Bement to Strawn, 53 miles; and the new line from Strawn to Chicago, 102 miles, being 289 miles in all, or six miles more than that of the Chicago & Alton.

Washington City, Virginia Midland & Great Southern.—Surveys are being made for the proposed extension of this road from Danville, Va., southward to Statesville, N. C., where it is to connect with the Atlantic, Tennessee & Ohio road for Charlotte.

Waycross & Florida.—This is the company organized to build the Georgia end of the Savannah, Florida & Western (late Atlantic & Gulf) Company's new short line from Waycross to Jacksonville. The East Florida is the organization in Florida.

Western & Atlantic.—This company has let a contract for building a branch line about four miles long from Rogers Station, Ga., to some iron ore beds in Bartow County. A company has been formed to work the mines on a large scale.

Western Counties.—A plan for the settlement of the troubles of this company has been proposed, which is favored by the Nova Scotia and the Canadian governments. It provides that the Nova Scotia government is to buy the Windsor & Annapolis road at an appraised valuation, as provided in the charter of the company. A new company is then to be organized, in which the Western Counties Company will be merged; the Nova Scotia government will transfer the Windsor & Annapolis road to this company, and the Dominion government will also transfer it to the Windsor Branch, with running powers over the Intercolonial from Windsor Junction to Halifax. This consolidated company will work the whole line from Halifax to Yarmouth, and will, with the aid of the local government, raise money by the issue of bonds to pay for the Windsor & Annapolis road, provide for the Western Counties debentures and finish the 17 miles of road still incomplete between Digby & Annapolis.

West Jersey & Atlantic.—The stockholders have voted to authorize the execution of a mortgage on the road, to secure an issue of \$500,000 bonds bearing 6 per cent. interest.

Western Union Telegraph.—At the quarterly meeting of the board in New York, March 11, the following statement was submitted for the quarter ending March 31, the March earnings being estimated:

Balance, Jan. 1	\$1,107,927.51
Net profits for quarter	1,325,071.41
Total	\$2,432,998.92
Interest, sinking fund, property, etc.	607,200.00

Balance.....\$1,825,798.92

Payments estimated for include \$45,000 for real estate and \$275,000 for patents. It was resolved to pay the usual quarterly dividend of 1½ per cent., after payment of which a balance of \$1,108,238.92 will remain.

Wisconsin Central.—The Boston Advertiser says: "This road on Jan. 4, 1879, was taken possession of by Messrs. John A. Stewart and Edwin H. Abbot, the trustees of its mortgage, and has since been operated by the trustees for the benefit of the bondholders. The company, at its annual meeting on May 29, 1879, voted to submit to the trustees a plan for the reorganization of the property, which is a new idea in railroad reorganization, and combines very perfectly the opposing equities of bonds and stock in a manner which does full justice to each. The plan covers the following points:

"1. To give the bondholders, through a board of directors chosen by themselves, the substantial possession and complete legal control of all the property, until their debt is paid out of its proceeds and earnings.

"2. Not to allow the stockholders to receive anything out of the property until the entire mortgage indebtedness on Jan. 1, 1879, is rendered secure, and is, in its new form, receiving regularly an average interest of 6 per cent.

"3. To retire the land income notes, substituting for them bonds which draw a lower rate of interest; and thus to effect a saving for the present bondholders of more than \$19,000 per annum, and to restore thereafter all proceeds of future land sales to the sinking fund for the redemption of the bonds.

"4. To put all holders of overdue coupon bonds upon an equal footing with those who joined in the funding scheme of July 1, 1875.

"5. To save for the benefit of the property, and primarily for the bondholders, all the legal rights of the present company, especially those relating to taxation which cannot be acquired by or transferred to any new corporation.

"6. To give 40 per cent. of the present bonded indebtedness a fixed and certain income, and a consequent present market value; and to secure to the remaining 60 per cent. all the residue of net income from the property until that net income pays 6 per cent. on the whole amount of bonded debt as it stood on Jan. 1, 1879.

"7. To preserve the present mortgage lien for the bonded debt in its new form, so that no present security will be lost by any bondholder while the exchange is being made.

"8. To adjust all outstanding equities among the present bonds, so as to give each shareholder the exact present worth of his security, dollar for dollar, in the new bonds; and to make the adjustment upon the same principle on which these equities would be adjusted in Court after foreclosure sale.

"A large majority of the stockholders having assented, Oct. 1, 1879, the trustees formally accepted the new plan, caused the new consolidated mortgage to be recorded, and commenced the exchange of new bonds for old, preserving, however, in full force, the old bonds and mortgage for the common protection of parties exchanging until the exchange is completed. The stockholders, as a condition precedent to the adoption of the plan, were required to transfer sufficient stock in the company to the trustees, to enable the bondholders, by voting thereon, to control the property until the bonds shall be paying their maximum interest, and be likely to continue so to do.

"In effect this plan gives to the bondholders as full and complete substantial control and possession of the incorporated company, and all its property, corporate powers, franchises and rights as the bondholders could acquire or possess by the formation of a new corporation after foreclosure under the trust deed; and also saves the bonded character of their debt and lien upon the trust premises; and also preserves every right, franchise, power, and privilege now vested in the present company, and protects them against any issue of new bonds or creation of other indebtedness which would impair the priority of said bonds, and secures substantially the full payment of all bonded indebtedness before the stockholders in said company shall receive anything out of the trust premises or any portion of the earnings and proceeds thereof; and it was the opinion of the trustees that a sale of the entire trust premises at that time would realize only a small portion of the bonded indebtedness, and could not be made to include lands, property, valuable rights and privileges which ought to be acquired and preserved for the benefit of bonds; but that by the plan of reorganization the payment of bonded indebtedness, in due course of time, is rendered reasonably certain, while the lands, property, valuable rights and privileges may be acquired and preserved for the common benefit of all the bonds and applied to their payment."

ANNUAL REPORTS.

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Union Pacific.

The following statements made at the annual meeting are received in advance of the full report for the year 1879. The income account was as follows for the 1,042 miles of the Union Pacific proper:

Gross earnings.....	\$13,201,077.06
Expenses and taxes.....	5,475,503.44
Net earnings.....	\$7,725,574.22
Interest collected.....	423,014.50
Total.....	\$8,148,588.72
Interest, sinking funds, on account subsidy bonds and dividends.....	6,952,427.37
Balance, surplus.....	\$1,196,161.35

During the year \$1,000,000 collateral trust bonds were issued for the construction of branch roads, \$94,000 sinking fund bonds were sold, and the following were redeemed and canceled: \$585,000 land-grant bonds, \$1,000 income bonds, \$138,000 sinking-fund bonds, and \$63,000 Omaha bridge bonds, making a net decrease of \$307,000, and placing the funded debt on Dec. 31, 1879, at \$50,495,000. The company owns other companies' bonds of a par value of \$7,990,500, and stocks of a par value of \$8,669,400. The gross earnings as compared with those of 1878 show an increase of \$79,805.08, and the operating expenses an increase of \$98,917.25, making a decrease of surplus earnings this year of \$19,112.17. The passenger earnings increased \$17,540.20, and the freight earnings, \$18,882.13. The government earnings increased \$34,433.81. The express earnings were \$488,645.92 for 12 months in 1878, and \$360,840.90 for 10 months in 1879. The business has been turned over to the Pacific Express Company in exchange for stock. The construction expenses aggregated \$128,388.38, but the sale of four locomotives and of some land at Omaha reduced these to \$101,456.92. Ten new locomotives and four new box cars were added to the rolling stock during the year. This now includes 171 locomotives, 165 passenger, baggage and sleeping cars and 3,220 freight cars.

The production of coal was 340,152 tons, an increase over 1878 of 64,357 tons, at a cost of \$363,249.16. The sales of coal aggregated 125,662½ tons, an increase of 23,422½ tons, and the receipts therefrom amounted to \$710,013, an increase of \$82,765.24. The report says: "The demand for coal has been very large, and the company has been unable to furnish all that was wanted. It will be necessary to open other mines in order to meet this increased demand. This will be done this season. Oil has been discovered during the last year about 90 miles from the road, due north from Point of Rocks station. Thorough tests have been made of it, and it is found to be as good as any that can be bought in the market, and it is being used largely on the road. There is said to be an inexhaustible supply of it. It is already being offered for transportation, and it will probably soon become quite a prominent article of transportation and add another to the local resources of the road." The sales of land amounted to 243,337.31 acres, a decrease, as compared with 1878, of 75,566.16 acres, and the receipts therefrom were \$1,007,855.63, a decrease of \$549,226.69. The total sales to Dec. 31, 1879, were 1,568,438.62 acres. The total proceeds were \$8,173,846.83 and the total expenses \$1,889,877.68, leaving net, \$6,283,969.15. The total of land-grant bonds canceled to Dec. 31, 1879, were \$4,101,000, leaving outstanding \$6,299,000. Including outstanding contracts and cash, the amount applicable to the payment of these was \$3,976,526.78, leaving to be provided for by future sales \$2,322,473.22.

The Omaha & Republican Valley Railroad has been extended to Stromsburg, in Polk County, making its total length 90 miles. It is now being further extended to Lincoln, the capital of Nebraska. The Utah & Northern Railroad was extended 94 miles last year, making its present length 274 miles, from Ogden, Utah, to Beaver Cañon, Idaho. It will be extended 30 miles further north this year. It is intended to extend the Summit County Railroad to Park City this year. The Utah Southern road has been extended south 130 miles, and will be completed to Frisco early in April, which is about 235 miles from Salt Lake. A branch road has been built northerly from the Union Pacific from Jackson to Norfolk, 48 miles. Several lines have been surveyed for a road to Oregon, but as yet the route has not been decided upon. The Oregon Railway & Navigation Company is extending its road eastwardly, and will connect with a road from the East at the eastern boundary of that state.

President Dillon gives a history of the consolidation with the Kansas and Denver Pacific roads, and says: "The stock of the Denver Pacific Railway & Telegraph Company, under the laws of Kansas, was an asset of the Kansas Pacific Railway Company, and has been applied by that company to the purchase of branch lines, to the ownership of which the consolidated company has succeeded." The total length of branch roads owned or controlled is given at 1,597 miles. The report continues: "The company has not yet paid any money to the government under the Sinking Fund act. The amount due the company from the government on half transportation account in the past years has been sufficient to meet any such requirement. By the provisions of the sinking fund, the Secretary of the Treasury is required to invest the sinking fund in the bonds of the government. It is proposed to have the first mortgage bonds of the company also included in that provision."

Charlotte, Columbia & Augusta.

This company owns a line from Charlotte, N. C., southward to Columbia, and thence southwest to Augusta, Ga., 195 miles in all. It has been controlled for over a year past by the Richmond & Danville Company. The report is for the year ending Sept. 30, 1879.

The equipment consists of 22 locomotives; 15 passenger, 2

sleeping, and 6 baggage, mail and express cars; 144 box, 9 stock, and 55 flat cars; 1 pay and 11 caboose and shanty cars.

The general account is as follows:

Stock (\$13,221 per mile).....	\$2,578,000.00
Bonded debt (\$13,851 per mile).....	2,700,971.48
Bills, accounts and balances payable.....	144,941.08
Profit and loss.....	105,121.89
Total.....	\$5,529,034.45
Road and equipment (\$26,320 per mile).....	\$5,132,314.92
Real estate.....	61,334.59
Stocks and bonds owned.....	290,895.30
Fuel and supplies.....	11,682.81
Cash and receivables.....	23,826.80
Total.....	\$5,529,034.45

The bonded debt consists of \$189,500 Columbia & Augusta bonds; \$11,000 Charlotte & South Carolina bonds; \$471.78 old fractional bonds; \$2,000,000 Charlotte, Columbia & Augusta first and \$500,000 second-mortgage bonds. The Charlotte & South Carolina and the fractional bonds are not secured by mortgage, so that the mortgage debt is \$2,689,500, and of this \$192,500 general first-mortgage bonds are owned by the company, leaving \$2,497,000 actually outstanding. The company also, under agreement, pays \$7,000 yearly as interest on Augusta City bonds issued in aid of the road.

The earnings for the year were as follows:

1878-79.	1877-78.	Inc. or Dec.	P. c.
Passage.....	\$132,521.03	\$140,220.23	D. 7,699.20 5.5
Freight.....	298,473.69	250,613.09	I. 47,860.54 19.1
Express, mail, etc.....	47,496.98	50,523.74	D. 3,026.76 6.0
Total.....	\$478,491.61	\$441,357.03	I. 37,134.58 8.4
Expenses.....	245,822.17	289,128.53	I. 43,306.33 15.0
Net earnings.....	\$232,669.44	\$152,228.53	I. 80,440.91 32.9
Gross earn. per mile.....	2,453.80	2,263.37	I. 190.43 8.4
Net earn. per mile.....	1,193.18	780.74	I. 412.44 32.9
Per cent. of exps.....	51.37	65.51	D. 14.14 21.6

The great gain in freight is due chiefly to the change in management, under which the business is chiefly carried through to Charlotte and the road worked as a through line instead of a local feeder to connecting lines at Columbia. Expenses were reduced by strict economy and careful revision of details.

The traffic of the road was as follows:

Train Mileage :	1878-79.	1877-78.	Inc. or Dec.	P. c.
Passenger.....	217,107	246,737	D. 29,630	12.0
Freight.....	149,418	133,745	I. 15,673	11.7
Service and switching.....	51,336	34,871	I. 16,465	47.2
Total.....	417,861	415,353	I. 2,508	0.6
Car mileage:				
Passenger train cars.....	914,745			
Freight cars.....	1,980,150			
Service cars.....	93,711			
Passengers carried.....	62,384	58,571	I. 3,813	6.5
Passenger mileage.....	3,249,511			
Tons express matter.....	857			
Express ton mileage.....	69,799			
Tons freight carried.....	95,470	97,948	D. 2,478	1.5
Tonnage mileage.....	7,559,703			
Av. train load:				
Passengers, No.....	14.97			
Freight, tons.....	50.60			

Car and traffic mileage were not kept until last year. Of the freight car mileage 76.66 per cent. was of loaded cars; foreign cars made 849,425 miles on this road, and this company's cars ran 978,159 miles on foreign roads. The average freight car load for loaded cars was 5.05 tons; for all cars, 4.19 tons. The average rate per passenger per mile was 4.077 cents, the local rate being 4.841; commutation, 3.093, and through, 3.244 cents per mile. Of the tonnage mileage 57.45 per cent. was of south-bound and 42.55 per cent. of north-bound freight. Of the passengers carried 52.892 were local, 9,851 through and 141 commuters. The average mileage of express freight per passenger train mile was 0.46 ton.

The gross tonnage of all classes of trains was as follows:

	Passenger.	Freight.	Service.	Switching.
Mile-tons by engines.....	8,684,280	7,022,046	1,020,390	857,010
Mile-tons by cars.....	18,588,166	17,014,836	1,234,936	691,114
Total.....	27,272,446	24,037,482	2,255,326	1,548,124
Load in mile-tons.....	449,021	7,559,703	430,400	268,987
Total, trains and load.....	27,721,467	31,597,185	2,685,626	1,817,111
Per cent. of load to total.....	1.62	23.93	19.08	17.38

The total cotton movement was 100,146 bales, an increase of 3,831 bales, or 3.98 per cent. There was a large increase in cotton carried to Charlotte, and a corresponding decrease in Columbia deliveries.

The income and profit and loss accounts were as follows, condensed:

Net earnings.....	\$232,669.44
Interest on all debt.....	192,142.56
Balance for the year.....	\$40,526.88
Profit and loss, balance, Sept. 30, 1878.....	\$192,880.16
Accounts closed by credits.....	2,948.47
Total.....	\$236,355.51
Old accounts, etc., paid.....	\$13,533.48
Doubtful accounts, etc., taken from assets as doubtful.....	35,822.81
Stocks, claims, etc., taken from assets as doubtful.....	81,708.12
Fractional bonds paid.....	39.21
Total.....	131,233.62
Credit balance, Sept. 30, 1879.....	\$105,121.89

The stockholders' Committee of Inspection report the road in good order, except the Congaree bridge, which is now being renewed. They report an improvement in the system of accounts in use.

The Superintendent reports extensive repairs to road, bridges and buildings; some new culverts are needed. Renewals included 221.6 tons iron rails, 52,369 ties and 3,491 stringers under the old chub-rail. Only one serious accident happened, the derailment of a passenger train at Ridgeway, Aug. 18, the cause of which could not be ascertained.

There are still 25½ miles remaining of the old chub-rail on stringers, which should be replaced. Some 600 tons of new iron is to be laid this season.

The track at Vaulchuse has been raised to give additional water-way, and to permit the increase of the water-power for the factory there. One-half the cost was paid by the Graniteville Manufacturing Company.

The President notes the great improvement in net earnings, showing, as above, a surplus of \$40,526.88 over all interest charges, against a deficit of \$44,432.93 in the preceding year. He congratulates the stockholders on the successful management of the road, which passed safely through the panic and funded its floating debt, avoiding the bankruptcy which has overtaken nearly all the other railroads of South Carolina.

Central of New Jersey.

The report of this company to the State Comptroller of New Jersey for the year ending Dec. 31, 1879, has been filed. It covers only the lines in New Jersey, the main line

73.40 miles, 53.95 miles of branches owned and 49.65 miles leased, 180 miles in all.

The stock, debt, etc., for two years past were as follows:

	1877.	1878.
Stock.....	\$18,563,200.00	\$18,563,200.00
Funded debt.....	32,798,000.00	31,850,276.00
Floating debt.....	6,341,208.90	4,293,058.01
Total.....	\$57,671,008.90	\$54,617,134.01
Main line and branches.....	13,836,802.97	13,790,742.97
Jersey City, Ft. Johnson, Elizabeth and other stations.....	3,192,570.68	3,204,892.08
Equipment.....	3,150,000.00	2,851,370.00
Total cost of property.....	\$20,179,373.65	\$20,018,005.05

The balance of \$37,491,635.25 is invested in Pennsylvania leased lines, coal companies, etc., and losses on past business.

The earnings for the year were as follows:

	1879.	1878.	Inc. or Dec.	P. c.
Passengers.....	\$1,542,556.72	\$1,435,013.06	\$107,543.66	7.5
Freight.....	1,261,784.72	1,072,901.25	188,883.47	17.6
Coal.....	1,348,052.84	986,212.89	361,839.95	36.7
Mail, express, etc.....	164,823.93	147,798.81	17,025.12	11.5
Total.....	\$4,317,218.21	\$3,641,926.01	\$675,292.20	18.6
Expenses.....	2,945,638.57	2,325,872.22	619,766.35	26.6
Net earnings.....	\$1,371,579.64	\$1,315,753.79	\$55,825.85	4.2
Gross earnings.....	23,084.55	20,231.26	2,853.29	18.6
Net earn. per mile.....	7,619.89	7,309.74	310.15	4.2
Per cent. of exps.....	68.23	63.86	4.37	6.8

The increase in earnings was very nearly balanced by that in expenses. A full statement for the whole line was promised some time ago, but has not yet been published.

Ohio & Mississippi.

This company owns the following lines:

Main Line, Cincinnati to East St. Louis.....	340
Louisville Branch, North Vernon to Louisville.....	53
Total Main Line and Branch.....	393
Springfield Division, Beardstown, Ill., to Shawneetown.....	229
Total.....	615

Since Nov. 17, 1876, the road has been in possession of John King, Jr., as Receiver in suits for foreclosure of mortgage. The Receivership has been used chiefly to reduce and pay off the floating debt. The Receiver's report is for the year 1879.

The earnings of the main line and branch for the year were:

were :	1879.	1878.	Inc. or Dec.	P. c.
Passengers.....	\$929,081	\$885,831	I. \$43,250	5.0
Freight.....	2,384,023	1,080,407	I. 1,303,616	15.3
Other.....	191,181	179,654	I. 11,527	6.4
Total.....	\$3,404,885	\$3,045,982	I. \$358,903	11.8
Less transfers.....	264,761	240,415	I. 24,346	7.4
Balance.....	\$3,140,124	\$2,795,567	I. \$344,557	12.2
Expenses, less transfers.....	2,084,927	1,908,100	I. 176,827	9.3
Net earnings.....	\$1,055,197	\$891,467	I. \$163,730	18.4
Gross earn. per mile.....	7,990	7,124	I. 866	12.2
Net ".....	2,685	2,268	I. 417	18.4
Per cent. of expenses.....	66.39	68.15	D. 1.76	2.6

The main line thus shows a large increase in business. The statement for the Springfield Division, 222 miles, is as follows:

	1879.	1878.	Inc. or Dec.	P. c.
Passengers.....	\$100,850	\$102,069	D. 1,219	1.2
Freight.....	238,314	211,505	I. 26,809	12.7
Other.....	22,951	23,694	D. 743	3.1
Total.....	\$362,115	\$337,268	I. 24,847	7.4
Expenses.....	365,894	364,188	I. 1,706	0.5
Deficit.....	\$3,779	\$26,920	D. 23,141	80.0
Gross earn. per mile.....	1,631	1,519	I. 112	7.4
Per cent. of exps.....	101.04	107.97	D. 6.93	6.4

With a considerable gain in earnings this division still failed to earn its expenses. The combined statement for the whole line is as follows, transfers excluded:

	1879.	1878.	Inc. or Dec.	P. c.
Gross earnings.....	\$3,502,239	\$3,130,835	I. 369,404	11.6
Expenses.....	2,450,821	2,272,288	I. 178,533	7.8
Net earnings.....	\$1,051,418	\$858,547	I. 192,871	21.6
Gross earn. per mile.....	5,895	5,101	I. 794	15.0
Net " ".....	1,710	1,406	I. 304	21.0
Per cent. of expenses.....	69.98	72.44	D. 2.46	2.4

During the year 7,032 tons of steel rails, and 500 tons of iron rails, 225,426 track ties and 4,378 switch ties, were laid on the main line; 1,406 tons of good selected iron rails were taken from the main line and laid on the Springfield Division; 70,744 track ties and 1,164 switch ties were placed on the Springfield Division. The entire length of the main line, between East St. Louis and Cincinnati, is 340 miles, of which 243 miles are laid in steel rails. A round-house, built of brick, with a machine shop attached, in place of that destroyed by fire at East St. Louis, was commenced in 1878, and \$1,779 expended during that year. This structure was completed in 1879, and \$19,205 expended upon this account, and charged to operating expenses.

The Receiver's cash account was as follows:

Cash on hand, Jan. 1, 1879.....	\$40,607
Receipts from all sources.....	\$5,113,884
Total.....	\$5,154,491
Paid claims incurred prior to Nov. 18, 1876.....	\$173,872
Paid claims incurred since.....	4,571,790
Total.....	4,745,662

Cash on hand, Jan. 1, 1880..... \$408,850

The total amount of floating debt recognized as due at the date of the receivership was \$1,401,736; amounts since audited, less collections on settlement, \$78,142; total, \$1,479,878. Of this amount the Receiver has paid off \$1,031,905, leaving \$447,973 due at the close of last year. The statement of floating debt for the year is as follows:

Amount unpaid, Dec. 31, 1878.....	\$553,878
Old claims audited during the year.....	\$72,446
Less amounts collected on old accounts.....	4,470
Total.....	\$621,845
Paid during the year.....	173,872

Balance unpaid, Dec. 31, 1879..... \$447,973

During the year, settlements were made with the counties of Lawrence, Richland, Clay, Clinton, Gallatin, Wayne, Cass and Effingham, for taxes accrued prior to 1876. These claims, amounting in the aggregate to \$162,973, were compromised by the payment of \$56,338. Payments were also made on account of taxes in St. Clair and Marion counties, which accrued prior to 1876, amounting to \$8,327,

of Sangamon, Christian, Shelby, Fayette and White remain unsettled, with negotiations still pending. The taxes due during the year on the main line in Ohio, Indiana and Illinois, amounting to \$54,381, and on the Springfield Division in Illinois, amounting to \$23,527, were promptly paid, and have been included in the charges for operating expenses. An agreement for the settlement of the claim of the Liverpool, London & Globe Insurance Company at \$60,000 has been reached and will be settled in 1880.

The amount of interest and sinking fund charges unpaid at the close of the year was as follows:

Six coupons on second-mortgage bonds	\$804,720
Six coupons on debenture bonds	29,400
Three payments to first-mortgage sinking fund	108,000
Six payments to second-mortgage sinking fund	96,000
Springfield Division coupons	354,165
Total	\$1,392,285

The first-mortgage coupons, due Jan. 1, 1879, were paid on March 1, 1879, and those due on July 1, 1879, on Sept. 1, 1879. The coupons on first-mortgage bonds, due Jan. 1, 1880, were paid on that date. No payment has been made on account of second-mortgage coupons, nor for coupons of the bonds of the Springfield Division. The interest on the Western Division bonds, income Western Division bonds and funded debt bonds was paid at maturity. These bonds are not large in amount, there being less than \$300,000 outstanding.

Mobile & Montgomery.

This company owns a line from Montgomery, Ala. southwest to Mobile, 179 miles. The present company acquired the road in 1874, through foreclosure; its latest report is for the year ending Dec. 31, 1879:

The general account is as follows:

Stock (\$10,886 per mile)	\$3,022,517
Bonds (\$1,536 per mile)	275,000
Accounts and balances	82,290
Income account	614,452
Total	\$4,004,259
Road (\$17,750 per mile)	\$3,177,329
Equipment and other property	634,871
Accounts and balances receivable	191,950
Total	\$4,004,250

The stock represents all the former bonded debt except a small prior mortgage not included in the foreclosure.

The earnings for the year were as follows:

	1879.	1878.	Inc. or Dec.	P. c.
Passage	\$188,242	\$198,847	D. \$10,605	5.3
Freight	470,103	435,841	I. 34,262	7.9
Express, mail, etc.	46,175	45,495	I. 680	1.5
Total	\$704,520	\$680,183	I. \$24,337	3.6
Expenses	475,808	421,703	I. 54,074	12.8
Net earnings	\$228,713	\$258,380	D. \$29,677	11.5
Gross earn. per mile	3,936	3,800	I. 136	3.6
Net " "	1,278	1,444	D. 166	11.5
Per cent. of exps.	67.54	62.01	I. 5.53	8.8

There was a considerable gain in freight, but a loss in passenger earnings, and a large increase in expenses, leaving a large decrease in net earnings.

The income account was as follows:

Balance, Dec. 31, 1878.	\$102,872
Net earnings	228,713
Total	\$331,585
Settlement of back taxes, etc.	\$30,811
Interest on bonds, and exchange	24,300
Old bonds paid	11,500
New depot and land, Mobile	12,035
Two dividends paid, and commission	148,277
Total	\$226,923

Balance, Dec. 31, 1879. \$194,702

Of this \$194,702 is actually to the credit of the company, and the balance, \$5,091, is in supplies paid for, not yet charged out and accounted for in the annual inventory.

The President, Mr. A. C. Richards, says in his report:

"The control of the stock, as you are aware, has been since the reorganization in the hands of a committee in London, of which Mr. J. S. Morgan is chairman, in whose hands, in accordance with the agreement, this power was to have remained until after the annual election for the ensuing year; but the necessity for this state of affairs no longer existing, it was determined, during the summer last past, to distribute the stock, and authority for so doing was given to the committee's agents. At the time they were about to act in making the issue, negotiations were commenced for the purchase of the Pensacola Railroad and the Selma & Gulf Railroad, both of which negotiations, after a good deal of discussion and some difference of opinion in your board of directors, failed. Directly after, Mr. Morgan, who was by far the largest stockholder, and who, through his English influence, controlled a large party of the stock, decided to sell his interest to a party associated with the Louisville & Nashville Railroad Company; but, before doing so, offered all the stockholders the same opportunity with himself, which, as you are aware, resulted in a sale to the Louisville & Nashville of a controlling interest in the capital stock of your company. Some circumstances in connection with this sale rendered it expedient again to postpone the distribution of the stock, and it was accordingly done, until the 6th of January, 1880, when it was prepared for issue."

Pennsylvania & New York.

This road consists of a main line from Wilkesbarre, Pa., to the New York state line, 104.8 miles, with a short extension to the Erie road at Waverly. The statement of tracks given in the report is as follows:

	Miles.
Main line, Wilkesbarre to New York state line	104.30
Second track in use as such	35.63
Sidings and second track used as sidings	53.41
Waverly & State Line road and sidings	3.46
Branch and sidings connecting with Geneva, Ithaca & Sayre	4.30
Branch and sidings connecting with Southern Central	4.47
Sidings at Waverly	3.07
Elmira	0.58
West Pittston	1.23
Pleasant Valley Branch and sidings	5.82
Short branches to coal breakers and sidings	5.27
Total miles of track	222.02

This is an increase of 2.90 miles. The road is owned by the Lehigh Valley Company, but is worked under a separate organization. Its report is for the year ending Nov. 30, 1879.

The equipment consists of 50 locomotives; 306 box, 97 stock, 210 gondola, 57 platform, 100 eight-wheel coal, 850 four-wheel coal, and 84 caboose cars; 4 wreck and derrick, and 81 gravel cars. There were 50 box and 50 four-wheel

coal cars added during the year. Passenger equipment is furnished by the Lehigh Valley.

The traffic for the year was as follows:

	1878-79	1877-78	Inc. or Dec.	P. c.
Passengers carried	140,118	149,478	D. 9,360	6.2
Passenger mileage	5,339,415	5,406,019	D. 67,204	1.2
Tons freight carried	771,681	650,344	I. 121,337	20.2
Tonnage mileage	87,457,130	57,818,007	I. 29,639,123	16.7
Tons coal:				
Anthracite	860,162	780,796	I. 79,366	10.2
Bituminous	329,901	314,507	I. 15,394	4.9
Total	1,190,063	1,095,303	I. 94,760	8.6
Coal tonnage mileage:				
Anthracite	74,465,517	68,410,511	I. 6,055,006	8.9
Bituminous	8,218,713	7,596,471	I. 622,242	8.2
Total	82,684,230	76,006,982	I. 6,677,248	8.8
Average rate:				
Per pass. per mile	2.52 cts.	2.73 cts.	D. 0.21 cts.	7.7
Per ton frt. " "	0.79 "	0.87 "	D. 0.11 "	12.6
Per ton coal " "	0.78 "	0.97 "	D. 0.19 "	19.6

The rate per ton of freight per mile was lower than ever before; for seven years past it has been as follows: 1879, 0.76 cent; 1878, 0.87; 1877, 1.09; 1876, 1.33; 1875, 1.60; 1874, 2.12 cents; 1873, 2.30 cents. Thus the rate last year was only about one-third of that in 1873. There was an increase in coal shipped over the Erie, but a decrease in deliveries to the Southern Central and the Geneva, Ithaca & Sayre. The movement of grain and other Western freight was large, and a considerable part of the coal sent West was in empty boxes and grain cars.

The earnings for the year were as follows:

	Earnings.	Expenses.	Net earnings.
Transportation of:			
Coal	\$641,910.85	\$344,735.12	\$297,175.73
Freight	511,560.75	294,642.74	216,918.01
Passengers, mail and express	134,262.99	81,886.79	52,376.20
Canal business	204.25	1,881.52	Loss 1,677.27
Miscellaneous	34,999.08		34,999.08
Total	\$1,322,937.92	\$723,146.14	\$599,791.78
Total previous year	1,424,467.78	890,425.79	\$534,041.99
Increase			\$71,749.81
Decrease	\$101,529.84	\$173,279.65	
Per cent.	7.13	19.33	13.19

The expenses for the year were 54.66 per cent. of gross earnings, against 62.93 per cent. the previous year.

During the year \$210,000 was paid for interest on bonds, leaving \$389,791.78 applicable to taxes, dividends, etc.

The reduction in expenses is remarkable, considering the large reduction in rates, both on coal and general freight. Better rates on both are looked for this year, and have so far prevailed.

There are now 109.93 miles of track laid with steel, 23.10 miles having been laid last year. The iron bridge, 1,440 feet long over the Susquehanna, was completed, and two other iron bridges built. A new track-scale was put in at Coxton, and a small shop built there.

President Sayre's report says: "When the road was built it was provided with single-track wooden bridges, the renewal of which with double-track iron structures as needed has been an item of considerable moment in the charges for operating expenses. Of the 23 bridges on main line—varying from 19 ft. to 165 ft. spans, and aggregating 3,907 lineal feet—all have been replaced with structures of iron except three. One of these is under contract, and it is designed to replace the other two during the year."

"The substitution of steel for iron rails has also added to the operating expenses. During the past year 23 miles of steel rails were laid, leaving but 30 miles to lay the coming year to complete the line."

"At Sayre the smith-shop is being completed, which is the only addition made to the much-needed shop facilities at this point."

"Since the date of last report the New York, Lake Erie & Western Company purchased a half interest in the stock of the Buffalo Creek Railroad Company, 876 shares of which were obtained from our company, and the road is now worked on joint account. Their receipts during the past year were \$57,874.87, an increase over the previous year of \$6,181.33. The expenditures for taxes, interest on floating debt, and operating expenses amounted to \$30,167.71, leaving a balance of \$27,707.16. So much of this as is necessary should be used in replacing the present wooden bridge over Buffalo Creek with a structure of iron, and the balance applied to the reduction of their floating debt, which is now \$90,000."

Allegheny Valley.

This company owns the River Division, Pittsburgh to Oil City, 132 miles; the Plum Creek Branch, 7 miles; the Low Grade Division, Redbank to Driftwood, 110 miles; and the Sligo Branch, 10 miles, making 259 miles in all. The following statements are for the year ending Dec. 31, and are published in advance of the full report:

The earnings were as follows for the year:

	1879.	1878.	Inc. or Dec.	P. c.
Gross earnings	\$1,745,316.77	\$1,910,222.15	D. \$164,905.38	8.6
Expenses	983,461.18	904,495.58	D. 11,014.40	1.1
Net earnings	\$761,855.59	\$915,726.57	D. \$153,870.98	16.8
Gross earnings per mile	6,738.67	7,375.37	D. 636.70	8.6
Net earnings per mile	2,941.45	3,535.62	D. 594.17	16.8
Per cent. of exps.	56.35	47.36	I. 9.00	8.3

The result of the year's operations was as follows:

Net earnings	\$761,855.59
Interest on all bonds except income bonds	1,152,486.04
Deficit	\$390,630.45
Interest on income bonds	477,463.00
Total deficit	\$868,114.05

This was met partly by the Pennsylvania Railroad Company paying interest on guaranteed Low Grade Division bonds, and partly by funding interest on income bonds.

Owing to the exhaustion of the oil territory tributary to this line, there was a large decrease in earnings from that traffic, as well as from passenger traffic, but the receipts from coal and lumber show an improvement.

There were put in the track 2,394 tons of steel, and the equipment was further improved over the previous year. There are now 149 miles of track on the River and Low Grade divisions laid with steel.

Cumberland Valley.

This company owns a line from Harrisburg, Pa., to Williamsport, Md., 83 miles. It leases the Martinsburg & Potomac road, which extends the line from Williamsport to Martinsburg, W. Va., 12 miles; the Southern Pennsylvania, a branch to Richmond, Pa., with a short sub-branch to Mercersburg, 21.4 miles in all, and the Dillsburg & Mechanicsburg, a branch to Mechanicsburg, Pa., 7.7 miles, making

123.1 miles worked in all. These leased lines are chiefly owned by the lessee, which holds most of their securities. The following statements for the year ending Dec. 31 are published in advance of the full report.

The earnings for the year were as follows:

	1879.	1878.	Inc. or Dec.	P. c.
Gross earnings	\$503,597.72	\$536,410.91	D. \$32,813.19	6.1
Expenses	238,097.70	311,425.89	D. 73,328.19	23.4
Net earnings	\$265,500.02	\$224,985.02	I. \$40,515.00	17.7
Gross earnings per mile	4,094.29	4,361.06	D. 266.77	6.1
Net earn. per mile	2,153.60	1,829.14	I. 324.52	17.7
Per cent. of exps.	47.40	58.06	D. 10.66	18.4

The income account for the year was as follows:

Net earnings	\$265,500.02
Interest on bonds	\$26,548.00
State tax	21,770.78
Dividends, 10 per cent.	177,785.00
Total	\$226,103.78

Surplus for the year. \$38,796.24

The expenses showed a remarkable decrease last year. The line is a prosperous one, and pays steady 10 per cent. dividends.

Baltimore & Potomac.

This company owns a line from Baltimore to Washington, 43 miles, with a branch from Bowie, Md., to Pope's Creek, 49 miles, making 92 miles in all. The following statements are published in advance of the full report for the year ending Dec. 31.

The earnings for the year were as follows:

	1879.	1878.	Inc. or Dec.	P. c.
Gross earnings	\$699,772.05	\$639,076.54	I. \$60,695.51	9.5
Expenses	520,201.09	546,186.28	D. 19,984.59	3.7
Net earnings	\$179,570.96	\$92,890.26	I. \$86,680.70	86.8
Gross earn. per mile	7,606.11	6,946.49	I. 659.62	9.5
Net " "	1,886.63	1,009.08	I. 876.95	86.8
Per cent. of exps.	75.19	85.46	D. 10.27	12.0

The result of the year was as follows:

Net earnings	\$179,570.96
Interest on funded and other debt	272,317.33
Deficit	\$88,746.07

The deficit in 1878 was \$182,260.65. It is made up by the Pennsylvania and Northern Central companies, joint guarantors of the bonds.

There were put in the track in 1879, 1,115 tons of steel rails and 44,954 ties, and the condition of the road-bed and equipment was fully maintained.

Intercolonial.

This road, owned by the Dominion of Canada, for the year ending June 30, 1879, consisted of the main line from Halifax to Riviere du Loup, 562 miles; the line from Moncton to St. John, 89 miles; from Truro to Pictou Landing, 52 miles, and from Paines to Shediac, 11 miles, 714 miles in all.

The cost, as given in the government report, was about \$36,000,000. The earnings for the year were as follows:

	1878-79.	1877-78.	Inc. or Dec.	P. c.
Gross earnings	\$1,294,100	\$1,378,947	D. \$84,847	6.1
Expenses	2,010,183	1,828,007	I. 184,116	10.1
Deficit	\$716,083	\$447,120	I. \$268,963	60.2
Gross earn. per mile	1,812	1,931	D. 119	6.1
Per cent. of expenses	155.37	132.43	I. 22.94	17.3

Included in last year's expenses was the sum of \$208,673, to close renewals expense account. A large sum was spent in railing overhead bridges and repairing and changing snow-sheds. The working force has been considerably decreased from former years.

Since the close of the year the line has been extended from Riviere du Loup to Point Levis, opposite Quebec, by the purchase of the Grand Trunk's Riviere du Loup Division, the distance being 124 miles. The Pictou Branch has been given to the Eastern Extension Company and possession has been resumed of the Windsor Branch, granted to the Western Counties Company, and taken back for failure to fulfill the contract. This branch, 32 miles long, is now worked temporarily by the Windsor & Annapolis Company. This makes the main line, Point Levis to Halifax, 686 miles; Shediac Branch, 11 miles, and Moncton—St. John line, 89 miles, or 786 miles in all.

Minneapolis & St. Louis.

For the year ending Dec. 31, this company worked a line from Minneapolis, Minn., to Albert Lea, 108 miles, and the leased Minneapolis & Duuth road, from Minneapolis to White Bear Lake, 15 miles, 123 miles in all.

The earnings for the year were as follows:

	1879.	1878.	Inc. or Dec.	P. c.
Gross earnings	\$471,344.90	\$405,235.22	I. \$66,109.68	16.3
Expenses	284,704.83	268,568.50	I. 16,136.33	6.1
Net earnings	\$186,640.07	\$136,666.72	I. \$49,973.35	34.6
Gross earn. per mile	3,832.07	3,294.00	I. 537.47	16.3
Net earn. per mile	1,517.40	1,121.37	I. 396.03	34.6
Per cent. of exps.	60.41	65.79	D. 5.38	8.2

An extension is in progress from Albert Lea to Ft. Dodge, La., 105 miles, which is now finished from Albert Lea out 35 miles, and from Ft. Dodge about 30 miles, leaving 40 miles to be completed. This was hardly advanced enough to bring in anything or carry regular business last year.

Prince Edward Island.

This road is owned by the Dominion of Canada and is of 3 feet 6 inches gauge. It extends from one end of Prince Edward Island to the other, having a line from Georgetown to Tignish, 152.5 miles; a line from Mt. Stewart to Souris, 38 miles, and 8 miles of short branches, 198.5 miles in all.

From the government report for the year ending June 30, 1879, it appears that the total cost of the road, including \$40,000 for harbor works at Souris, has been \$3,450,000, or \$17,850 per mile. The grading of the road was generally light, and the bridges not expensive.

The earnings for the year were as follows:

	1878-79.	1877-78.	Inc. or Dec.	P. c.
Gross earnings	\$125,855	\$135,899	D. \$10,044	7.4
Expenses	223,313	231,599	D. 8,286	3.6
Deficit	\$97,458	\$95,700	I. \$1,758	1.8
Earnings per mile	634	685	D. 51	7.4
Per cent. of exps.	177.37	170.80	I. 6.57	3.8

Passenger and freight business showed a slight decrease.